

SOAP

SANITARY CHEMICALS

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July, 1943

Say you saw it in SOAP!

3

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**HANDLE CAREFULLY!
RETURN PROMPTLY!**



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WHERE THEY CAME FROM!

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Volume XIX

Number 7

SOAP

and

SANITARY CHEMICALS

Reg. U. S. Pat. Office

JULY
1943

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AROMATIC BULLETIN

AROMATIC PRODUCTS, Inc. • 15 East 30th Street, New York 16, N. Y.

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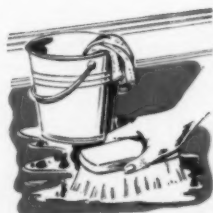
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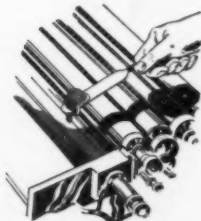
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PM-83

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July, 1943

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9

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What invisible feature figures prominently in keeping the consumer sold on the same soap?

— *It's Perfume!*

That is why we have made such an intensive study of soap perfuming... why our "know how" will help sell and resell your soap in any language, in any clime.



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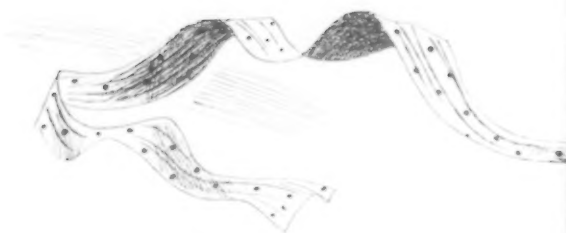
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New York, N. Y.

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There is always a best of anything...including replacements. With so many of the materials upon which you have relied no longer available, it is most important in the maintenance of your standards... *and your reputation...* that you enlist *the finest* among replacements.

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On top of . . . tomorrow!

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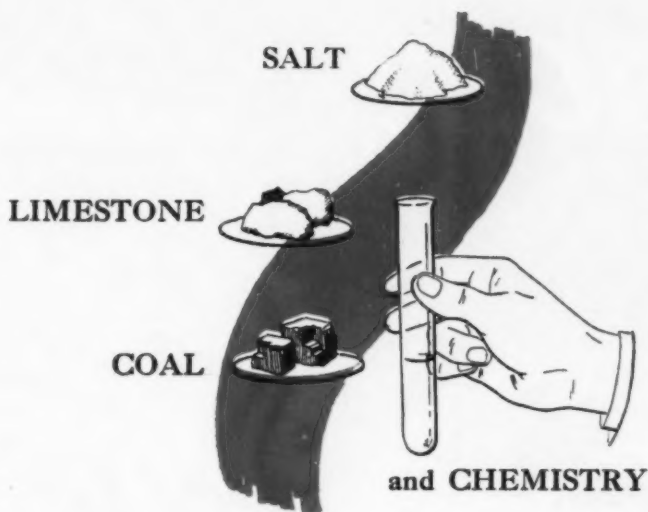
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REMEMBER
ABOUT**

"BEAMAX"
DRIES TO A LUSTRE
LIQUID WAX

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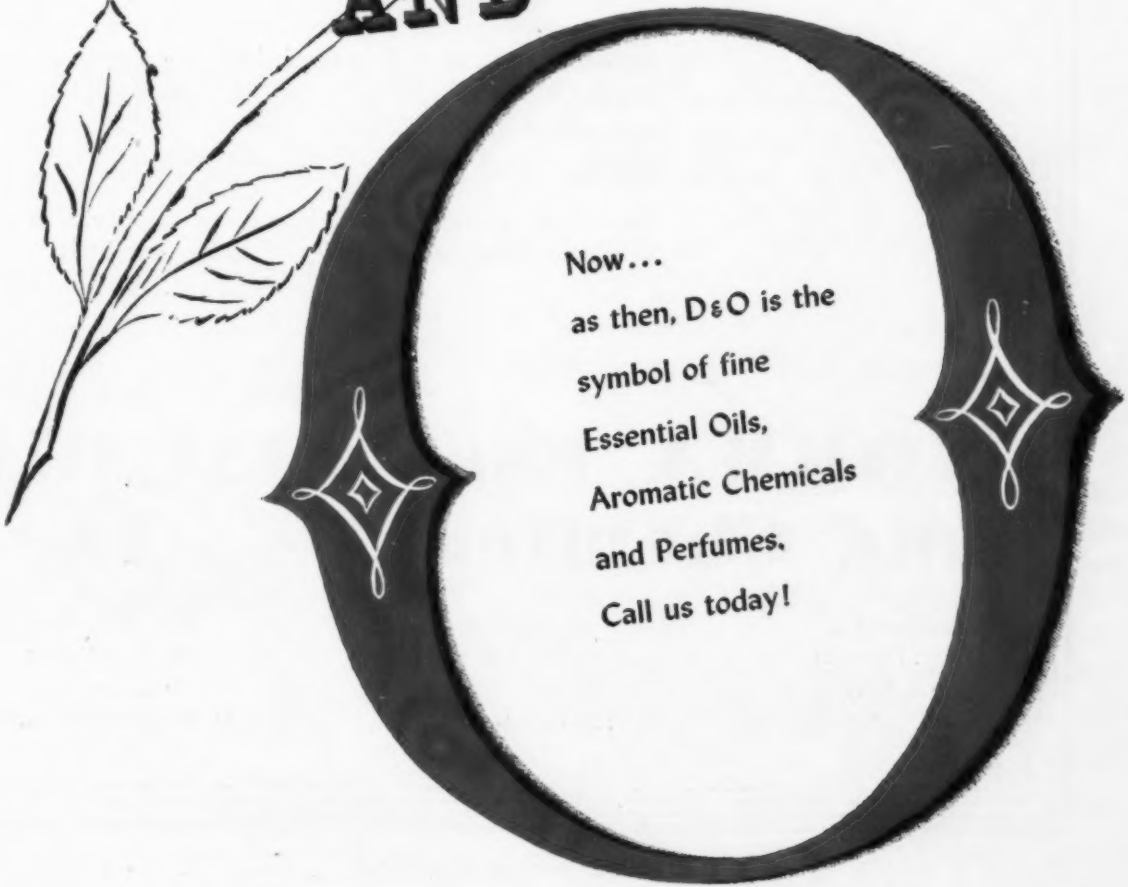
NEW YORK 6, N. Y.





Nearly a century
and a half ago,
This Institution
was founded on the
principles of
Progress and
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AND



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as then, D&O is the
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Present dwindling supplies of natural floral essences emphasize the value of high quality substitutes.

Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products, — toilet soaps, shampoos, shaving creams, powders, creams, and many others.

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TO INDUSTRY AND VICTORY

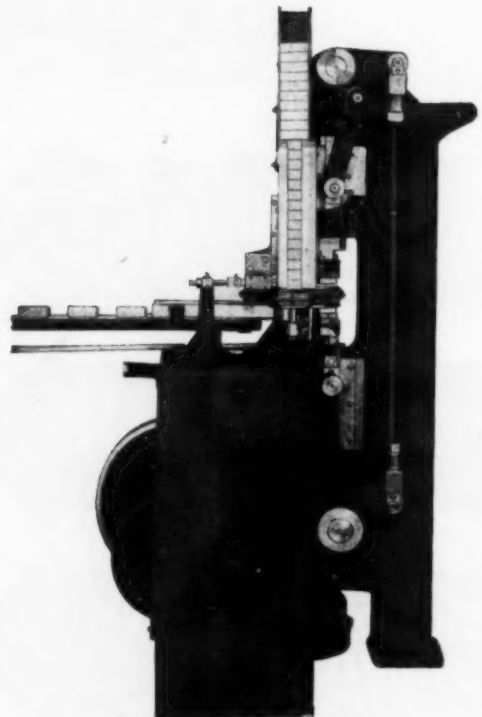
JONES TOGGLE PRESSES

*We All Worship
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ELL pressed cakes
of soap with a
beautiful finish
enjoy buyers' preference.

This fact is so well established that leading soap makers now spare no expense or effort to produce cakes with the most beautiful finish, a finish obtainable only thru the use of JONES TOGGLE PRESSES.



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The Standardized CONSTANT MOTION CARTONER packages bottles, jars, tins, collapsible tubes and many other articles. It feeds, folds, and inserts direction sheets and corrugated board liners with the loads.

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CINCINNATI, OHIO

EDITOR

THE threat of rationing is again rearing its ugly head in Washington. As we see it, rationing is one possible solution to the problem currently facing the soap industry, but it is a solution which is certainly not at the moment inevitable, and one which can be avoided if the proper steps are taken. In brief, government must make available additional fat supplies, soap makers must do their part —by exercising an even closer control over sales, and soap consumers must be warned vigorously against hoarding as an important factor leading to the very solution which they should most want to avoid. Coupled with increased use of rosin, of which there are still ample stocks, further stimulus to the waste fat salvage program, which incidentally is on the way, and a paring of unduly large government soap purchases, we believe that this program would obviate any necessity for soap rationing.

As for rationing as a solution to the present problem, soap makers themselves are in the best position to judge what a poor solution it would be, and what problems of its own it would create. How, for instance, would rationing be worked out to accommodate the varying needs of users in hard and soft water districts, white collar workers and day laborers, rural versus urban populations, etc.? How can wholesalers and retailers be expected to cope with the complexities and paper work of still another rationing program? Would soap rationing, like shoe rationing, aggravate rather than relieve the current scarcity? Would not rationing torpedo the waste fat salvage program and divert these fats into home-

made soaps, with the resultant loss of glycerine?

To our way of thinking, rationing would not solve the problem, but rather add hopeless complications to an already bad situation. Preferable by far it would be for government to permit the soap industry to struggle along as best it can under present conditions, and concentrate its own efforts on augmenting raw material supplies. It has already taken several long steps in this direction by release to the industry of stocks of coconut oil, —fish oil, palm oil, linseed oil, lard, etc., and it is understood also that babassu oil will shortly start to arrive from Brazil in greater volume as a result of stimulation provided by our commission which visited South America some months ago. Are there additional fat sources which could be tapped in Africa and the south Pacific? With reopening of the Mediterranean credited with having solved the shipping shortage, it should be possible for ships returning from convoy service to bring thousands of drums of palm oil from Africa, or coconut oil from the South Pacific.

Another possible government contribution toward relief of the present situation might be to temper its own soap buying program with a little more discretion. In short, could not government soap purchases be cut down? And the same formula might also be applied by some civilian buyers who are still battling to obtain every last pound of soap, often in excess of 1941 and 1942 purchases, simply because they can sell more today.

All of this boils down to the fact that government soap rationing is not the

solution of the problem of soap supplies today. The circumstances of soap manufacture and distribution are such, — and not at all comparable to food rationing,— that rationing will defeat its own purpose. Instead of helping to increase supplies of soap, it will tend to cut supplies. And its complications and red-tape will bring chaos to a situation already well scrambled.



REASONS behind the welcome decision of the War Food Administration to release some of its stockpile of coconut oil for soap making have not been hard to find. One important factor has apparently been the overloaded position of oil storage facilities. Report has it that with increased emphasis being placed on the importation of babassu and linseed oils from South America, it was essential to find storage space for the new supplies coming in.

Of perhaps equal importance in arriving at the decision to release stock-pile coconut oil was the factor of glycerine loss in stored oil. One soap maker who recently repurchased oil from the government found that during storage fatty acid content had mounted to 12 per cent from a figure of three or four per cent when originally stored. Thus considerable recoverable glycerine has been lost. The decision to push a portion of remaining stocks toward the soap kettle as rapidly as possible is under present conditions unquestionably a good one, and a step that will guard against further loss of an essential war material.

There may be grumbling from within the industry over government handling of this situation, and we have already heard much critical comment on glycerine loss, needless storage and shipping expenses, etc. We feel, however, that these criticisms are not wholly warranted. Those in charge of the oil and fat program had first to provide insurance for the country against a possible crop failure this season, and could not take the dangerous chance of using up potential

food stocks until they were able to get a better picture of what to expect in domestic oil and fat production this year. It is easy to second-guess now and term their precautions as unduly pessimistic. We can imagine, however, what an indictment the country would have levied against these same officials if the stock pile of oils and fats had been allowed to fall to a low level, and had then been followed by crop failure. Those in charge of shaping the oil and fat program had no choice in our opinion in laying their original cautious plans, and have now made what appears to be a wise decision in releasing some of the stock-pile based on an improved outlook.



SHALL the government extend control over animal fats which it now applies to vegetable oil use? In short, shall it be made mandatory to trim excess fat off meat before it leaves the packing plant in order to increase short tallow supplies? That large quantities of fat are now going from the packers to the butchers and on to the housewife and sold at meat prices is quite obvious. There are those, especially some soapers, who believe that this fat should and can go to the soap kettle. There are others, renderers, packers and soapers too who take exactly the opposite view and feel that any such regulation would defeat the purpose for which it might be drawn.

Those who favor enforced trimming of meats at the packing houses feel that this fat would then be directly available for soap use. The opponents say that this fat would go mostly into edible channels and would never reach the soap kettle. The renderers state that any such regulation would cut off their supply of crude fats, might put them out of business, and that it would effectively ham-string the fat salvage program. That this is definitely a question with two sides is obvious. And it is one to which considerable thought should be given before any further regulations are considered.

SOAPS *for* MEN



THE growth over recent months in the popularity of soaps and toiletries made especially for the masculine user has been of substantial proportions. Accompanying this upsurge in sales of soaps and kindred specialty items for men has been a considerable rise in the number of new products being offered. The sudden cropping up of new products and new firms in a field is usually indicative of an expanding market. Such is the case in the field of men's toiletries and soaps. Typical of the more "recent arrivals" are Alfred D. McKelvy Co., makers of the "Seaforth Toiletries for Men"; the "Batter Up" line of Sportline, Inc., the broad Gourielli group marketed by Prince Gourielli, Inc., whose wife is Helena Rubinstein, famous cosmetician; and the "Point Rouge" specialties for men, made by Mem, Inc., all of New York.

In the field of men's soaps and toiletries there is definite cleavage between the older, more established products and the more recent innovations. Basic distinctions exist in product appeal, both as to the products themselves and the way they are merchandised. The

newer products rely for their appeal heavily on the novel; in some instances surrounding the products with an aura of glamour. Advertising and promotion, following the novelty and glamour themes, is unusually widespread. One company boasts in its advertising the fact that it is only four years old. The older and more established companies: the Colgates, the J. B. Williams, the Mennens, the Yardleys, etc. play up the purely utilitarian aspects of their wares. It's strictly matter of fact, man-to-man with them. Which type of product sells best, all other things being equal, of course, is a matter for speculation. Because of the impact of the war on this and many other markets, new problems arise and buying conditions change. With so many men going into the various branches of the armed forces, and with so much more purchasing power in existence, it is not hard to see why people will spend a little more for themselves or for gifts for their friends going into the services. And that is where the newer products loom so large in the picture. The newer items, mostly in the form of gift boxes and sets, make

very attractive and useful presents. They are priced high enough so that as gifts they are highly acceptable both from the point of view of value and utility.

The older and more established products, also featured in sets, which have found favor as gifts, are in extremely heavy demand at Post Exchanges, Canteens, etc. In fact, demand has been so heavy that in many instances, due to raw material shortages, etc., it has been impossible for manufacturers to meet their requirements.

Difficulty in getting raw materials brought to light this condition. Large manufacturers, and particularly those who have been in the business for some time, naturally have heavy demands. When they need raw materials or supplies, therefore, they must be in a correspondingly large volume. Suppliers, with limited stocks, are unable to fill such large orders. This forces the large manufacturer to put aside the idea of trying to expand his line, and in some instances makes it necessary for him to shorten the number and variety of his products. The



newer entry into the field usually has smaller needs. Thus, it is often easier for him to have his orders for supplies filled than for the larger firm. The large manufacturer has to ration his goods or even reduce the number of outlets to which he can sell. The result is that there is a market for the smaller man's goods and a good chance for him to grow bigger. And for some that is the explanation of the seeming boom in men's soaps and toiletries, and the advent of new companies with new products.

While the foregoing explanation contains a great deal of truth, it does not explain the picture in its entirety. There are medium sized manufacturers who have been in the field not perhaps as long as some of the older firms, but much longer than the recent arrivals. And it is from many of the medium sized manufacturers that quite a few of the new departures in men's accessories are coming.

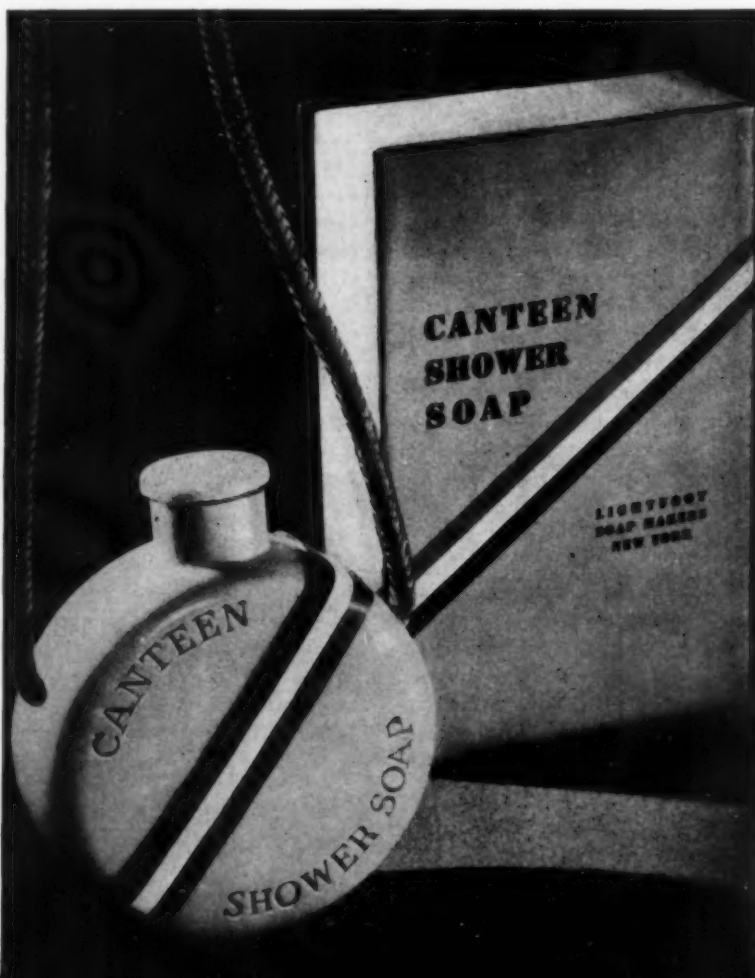
Another factor in this discussion that should not be overlooked is the extension into the men's field of toiletries made by manufacturers of women's cosmetic lines. Notable among these is Mary Chess, Inc., of New York. This firm, long specialists in women's beauty preparation, some months ago came out with such assorted items as after shaving lotion, friction lotion, toilet water, after shaving powder, after shaving cream, a bath soap and a soap-filled wash cloth. Attractively packaged in plastics and glass, the line bore the name "Chessmen." Lenthéric, perfumers, have an

unusual wood shaving soap bowl and talc for men. Faberge's Woodhue toilet water for men is packaged beautifully in glass with a leather top and base.

Apart from gift sets designed for men in general, Lightfoot Schultz Co., New York, and others have designed soap especially for service men. One of these, "Canteen Shower Soap" made by Lightfoot Schultz, is in the shape of a water canteen and has a cord attached to it for shower use. An-

other, made by the same company, is "Formula 626 Service Soap." Each of six cakes packed in an individual box to retail for a dollar bears a shield-on-eagle design. The outer, or packing box, is printed with "to" and "from" lines for addressing. Hewitt Soap Company's recently introduced pine scented shower bar might also be considered in the category of soaps for soldiers, being designed especially to give the user a non-slip grip on the bar.

If further evidence be needed to prove the increasingly important gift role played by men's soap, shaving requisites and specialties, recent merchandising efforts on behalf of Father's Day are offered. Department, chain, and specialty store windows were crowded with gift packages containing soaps or packages built around soaps. Newspaper advertising and publicity, such as large photographic spreads in Sunday supplements, all featured better priced gift sets for men containing soap. Alfred D. McKelvy, using a full-page full-color advertisement in the Sunday *New York Times Magazine* for April 25, as a sort of



pre-Father's Day spur, is reported to have used 210 newspapers from coast to coast to carry special Father's Day advertising. Shulton, Inc., is another manufacturer who has been devoting considerable effort to merchandising its men's group for Father's Day.

WHAT is the reason for this trend toward men's soaps and specialties? The war. At least that's what 99 out of every 100 people you question will tell you when you ask why the sudden upsurge in sales of men's soaps and toiletries. The hundredth person, not denying the importance of the war adds that the advertising and promotion expenditures invested in past years are finally beginning to pay dividends. With a certain amount of missionary work done, and providing the merchandising efforts on behalf of men's soap continue, the post-war years will be a better gauge of the accuracy of the hundredth person's explanation for the sudden boom in men's soaps. The barn door subtlety of the war's effect on all markets should be accepted for what it is—a war boom. However, habits contracted in war time sometimes carry over surprisingly intact into the post war years.

Breaking the thing down still further, one manufacturer believes: "With war, emphasis has been placed on men and their grooming problems. Many young men who have placed little or no emphasis on good-grooming come from small towns where very often the only newspaper is the local *Bugle* and where they hardly ever saw national magazines. These men are learning of many products new to them, among which are the shaving requisites. With the army stressing good-grooming, men are more conscious of a sense of cleanliness. Another reason for the upswing in buying is the so called "loose money." The total income for families in many parts of the country has been doubled, tripled or even quadrupled. A great many people who never could afford the better type of toilet requisites are now affording themselves this "luxury."

Looking at some of the mer-

chandise being offered today it doesn't take much imagination to figure out why the stuff is selling. A far cry from the old days of father and even our own shaving mug, tablet, bay rum or five cent cake of ordinary brown laundry soap are the swank offerings of Gourielli. They make an old English soap bar to retail for a dollar, a jar of "Active Ozone" shave soap, and two apothecary jars containing after shave lotion, and "Sulfo Colloidio" hair lotion in a smartly gotten up gift package that sells for \$4.50. Other sets include three cakes of the old English bar soap—three dollar retailer; three apothecary jars of cologne, "Emulsion" and after shave lotion that retails for eight dollars, and a set consisting of a blue, shield shaped cake of bath soap bearing the Gourielli crest (scent of Wild Lilac) and two smaller apothecary jars of cologne and "Sulfo-Colloidio" hair lotion to retail for \$4.25. Offering one of the most complete men's lines yet put together, Gourielli augments its sets with individual items such as oil shampoo, hair groom, sports liquid (a tanning preparation), anti-chap stick, eye bath, after shave talc, and "Sulfo-Colloidio" bath.

The Gourielli attitude is pretty well summed up in the following statement from one of their recent releases: "Prince and Princess Gourielli's preparations show no partiality to either sex and have departed completely from the old-fashioned notion that good grooming is a feminine monopoly. It is Prince Gourielli's belief that grooming has become a fundamental in the

life of the man of today. Even the man who never gave it a thought before steps into a uniform, and suddenly, his whole viewpoint changes. His hair must be vigorous, his scalp healthy, his skin clear, and his beard invisible. Such is the simple basis for all Gourielli masculine preparations..."

Although working with fewer items than the Gourielli line, the Sportsman toiletries for men featured by John Hudson Moore include some clever improvisations on basically commonplace subjects. The shaving bowl for this line is in the form of a porcelain decoy. The duck decoy is sold individually or in combination with shaving lotion, cologne, talc, or hair dressing. The latter three items come in glass bottles bearing likenesses of a pheasant, sailfish, sailboat, quail, baldpate, muskie and race horse. Wooden bottle tops, conserve and replace metal, and, at the same time, give the bottles



an air of masculinity. Three large cakes of stamped soap are packed in a gift box. The inside of the lid bears prints of quail, etc. As part of its merchandising plans, John Hudson Moore advertises extensively in such class publications as *The New Yorker*, *Vogue*, *Harper's Bazaar* and *Esquire*. A new package, especially for Father's Day, was recently introduced by this firm. It includes a large cake of Sportsman bath soap and a bottle of shaving lotion. Called the "Refresher Set," this box is complete with tag reading "To Dad, The Best Sport I Know." It retails for two dollars.

ONE of, if not *the*, most successful companies to strike the field of men's toiletries is youthful Alfred D. McKelvy Co., New York. Founded in 1939, this organization spent over \$100,000 advertising its Scottish theme Seaforth line in the third year of its existence. In 1943, considerably more than the amount spent in 1942 will be put behind advertising the scotch plaid decorated and whisky juggled line of men's specialties. Seaforth, according to an account of the company's origin and growth appearing in *Sales Management* for December, 1942, "is based on a different set of principles: to give the product a masculine package, a he-man scent, and appeal to men's desire to look their best and to feel well groomed." The name, Seaforth, is said to have originated from an old Scottish regiment of that title which was renowned for the fine appearance and sartorial excellence of its members. Following through on the Scottish theme, Mr. McKelvy, former account executive for the Minneapolis office of a large advertising agency, chose the whisky jug for packaging liquids. For packing solid shaving soaps the wine sac cup, also of Scottish origin, was decided upon. Tweedy looking gift boxes, in which are packed sets of Seaforth shaving lotion, shaving soap, bath soap, deodorant, cologne, talc, hair dressing preparations, liquid shaving soap jugs and shaving mug refills, retailing from two to seven dollars, all have the Scottish touch to them.

The story of how the scent was chosen is an interesting one. *Sales Management's* article reports it as follows: "For odor, Mr. McKelvy turned to the Scottish moors with their scent of heather, fern and peat moss. Dozens and dozens of combinations of odors based on these three scents were compounded . . . and after much preliminary testing, nine were finally selected. Then, to ascertain which one would appeal most to his potential market, Mr. McKelvy arranged with a telegraph company to place the odors, labeled with a key letter, in several large receiving offices. Men sending telegrams were asked to indicate their choice. Mr. McKelvy selected telegraph offices as a suitable testing ground on the premise that men who send telegrams can afford a dollar for toiletries. The result from this poll of several thousand potential customers gave one odor a vote greater than all eight other odors combined, and that odor became Seaforth."

One of the newest additions to the Seaforth group is the "Commando Kit," designed especially for men in the armed services. It is reported that a single order received recently for the "Commando Kit" was greater than the entire business done by the company in its first two years.

CAPITALIZING on the American male's love of baseball, a former player, Garrie La Bran, recently introduced the baseball theme into the field of men's toiletries with his "Batter-Up" line. Cleverly carrying out the baseball motif in copy and packaging, the items are packaged in ceramic baseballs and containers in the shape of baseball bats. In sets retailing from two to four dollars, there are two two-piece sets called "double play" and "two base hit"; a three-piece set is, naturally, the "three base hit" set, and the four-piece set "home run." The deodorant is appropriately called "Fadeaway." Brushless and lather types shave cream are in bowls called "shaving ball." The top of the bowl is designed with simulated baseball stitches. The handle is ball-shaped. Sportline, Inc., also features talc in ball and bat shaped containers, de-

odorant, after shave lotion and two types of shaving cream.

Shulton, Inc., New York, has augmented its line of "Early American Old Spice" cosmetics for women with a men's line of soaps and toiletries based on the early American days. The hall mark of this line of six sets is the clipper ship of the early 1800's. The theme is further carried out by putting up the sets in packages reproducing trunks of the period. Sets consist of bath soap, shaving mug, after shave lotion, cologne and talc, in ceramic reproductions of early American medicine bottles. All are stamped or marked with the emblem of the clipper ship. They are given such quaint names as "Ship Grand Trunk," etc. One of these sets is boxed in a container that bears a close resemblance to a ship's locker, on all sides of which are reproductions of various ships and their dates of launching. This set contains a four-ounce cylinder of men's talc and a four-and-one-half ounce tube of brushless shave cream. Shulton's men's sets retail from one to five dollars.

Another fairly newcomer to the field of men's soaps and toiletries is Mem, Inc., New York, who make all sorts of soaps in novelty and standard shapes. Mem goes in for attractive packagings in wood for soaps for men, and glamorous bottles for liquid accessories. Such an one is a set of glass bottles decorated with a typical English hunting scene that closely resembles a wood bottle. Wood, leather and other bottle tops and bases have been and are being used widely. The Mem shaving soap varies from the usual bowl type in that it has a base that tapers up from the bottom to a narrow stem neck that flairs out at the top where the soap cake is encased.

In spite of handicaps imposed by raw material shortages, container problems, etc., there has been no lack of customers for men's soaps and toiletries. Capitalizing on trends of the times, many department stores are setting aside special sections for men's preparations. Formerly, in department stores, soap was sold almost exclusively

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New Army Specification For ALL-PURPOSE SOAP

ATENTATIVE specification drafted by the Office of the Quartermaster General, U. S. War Department, Washington, D. C., covering the new so-called "all-purpose" Army soap has just been released for publication. The new specification (OQMG No. 100) covers two types of toilet soap for use in soft, hard or sea water. Type I is a framed and stamped bar and Type II is a milled bar. In releasing the specification, Dr. J. E. Simpson, special assistant to the Quartermaster General, has placed particular emphasis on the preliminary character of the specification in its present form. The Quartermaster Corps appreciates that the specification may require modification, and in fact has invited critical comment from the soap and detergent industries. The complete specification follows:

SOAP, TOILET, SOFT, HARD OR SEA WATER.

A. APPLICABLE SPECIFICATIONS.

A-1. The following Federal Specification of the issue in effect on date of invitation for bid shall, insofar as applicable, form a part of this specification:

P-S-536—Soap and Soap Products; General Specifications. (Methods for Sampling and Testing.)

B. TYPES.

B-1. Soap, toilet, for use in soft, hard or sea water, shall be of the types specified below. Each type shall meet all the performance and other requirements:

Type I—Framed and stamped bar.
Type II—Milled bar.

C. MATERIAL.

C-1. Soap, toilet, soft, hard or sea water, shall be as specified hereinafter for each type. (See Section E.)

D. GENERAL REQUIREMENTS.

D-1. General.

D-1a.—Soap, toilet, soft, hard or sea water, shall be a well-made, homogeneous product of composition specified herein; shall be in bar form of specified dimensions and weight. Product shall be non-floating and

capable of rendering satisfactory performance as designated herein, in water of any degree, hardness from zero to hardness equivalent to sea water, at any temperature between 40° F. and 100° F. for the following uses:

- D-1a(1) General purpose toilet soap and shampoo;
- D-1a(2) Mess kit and similar equipment cleansing;
- D-1a(3) Manual laundering of clothes;
- D-1a(4) Shaving soap.

D-1b. Soap Stock shall be high quality sodium soap made from fats, oils, or fatty acids, or mixture thereof; soap shall not contain more than 0.8 per cent glycerol based on anhydrous soap content; shall have an odor characteristic of high quality soap stock.

D-2. Odor.—Shall not have an objectionable odor at time of delivery or during use; shall contain sufficient mild perfume to just mask the characteristic odor of the unperfumed product and give the product a bland, neutral odor; shall be similar to approved sample.

D-3. Appearance.—The bar shall be a uniform color similar to approved samples, both initially and during use; shall not have a light reflectance above 25.

D-4. Consistency.—Shall be a firm, non-crumbling bar without evidence of being unduly sticky or abrasive, either initially or during use; shall not be hygroscopic to extent of softening or wasting during use; shall not be of such hardness as to retard its proper use.

D-5. Solubility and Sudsing.—The product shall dissolve readily in soft water; and shall make a finely divided dispersion in either hard or sea water. Product shall yield minimum of 50 ml. suds when a 1 per cent dispersion in synthetic sea water is tested as indicated in F-3c.

D-6. Soil Removal.

D-6a. From Skin.—Shall remove the grease from skin in one washing, as indicated in F-3d, in water of any hardness from zero to hardness equivalent to sea water, when tested at 60° F; shall easily rinse from skin; shall leave an agreeable feel to the skin.

D-6b. From standard soiled samples.—Shall remove soil from soiled samples to within 15 per cent of reflectance value of washed unsoiled

sample, when tested as specified in F-3e.

D-7. Bid Samples.—Twenty-four 4-oz. bars of specified size of soap, toilet, soft, hard or sea water may be required by the Procuring Depot, and a similar amount furnished Research & Development Branch, Military Planning Division, O.Q.M.G., at time bid is made, for the purpose of determining compliance with the specification.

D-8. Dermatitis Test.—Fifty human test subjects will be used, and each will be patch tested with the following:

1 cc of a 0.25 per cent concentration of soap in distilled water will be absorbed into a 1" square test patch consisting of 4 layers of white cotton muslin. These pieces, while wet, will be applied to the inner surfaces of the forearm and covered over by an occlusive protective coat which will prevent the evaporation of water. The tests will be worn for a period of 48 hours with interpretation of the irritation results being made at the end of each 24 hour period. The site on which the materials is used will be plainly marked, and the tests will be repeated on the same individual after a period of two weeks. Erythema or induration at the site of the patch will be considered as evidence of irritating properties in the soap. Not over 14 per cent of the test subject shall show induration, urticaria or erythematous reactions.

E. DETAIL REQUIREMENTS.

E-1.—Computation: The percentage of matter volatile at 105°C shall be computed and reported on basis of the material at time of manufacture. The percentage of all other constituents shall be calculated and reported on the basis of material containing the following per cent volatile matter:

Type I—22.0%
Type II—10.0%

E-2. Type I—Framed and stamped.

Composition	Per Cent by Weight	
	Min.	Max.
Total organic detergent,		
anhydrous salt-free*....	25.0	...
Soda Soap, anhydrous....	32.0	...
Moisture and volatile matter (105°C.).....		25.0
Inorganic salts		17.0
Alkaline salts, calculated as Na ₂ CO ₃ minus Na ₂ SiO ₃ ...		0.30
Sodium silicate		1.00
Free alkali, calculated as NaOH		0.10

Free acid, calculated as	
oleic acid	0.30
Matter insoluble in water	0.50
Perfume	To match approved sample.
Rosin	None
Sugar	None

* Suggested organic detergent combination:
 Nacconol HG or HGW..... 18 ...
 (Nat'l Aniline Div., Allied Chemical & Dye Corp.)
 Ultrawet 40B

E-3. Type II. Milled.

Composition	Per Cent by Weight	
	Min.	Max.
Total organic detergent, anhydrous, salt-free*	26.0	...
Soda soap, anhydrous.....	52.0	...
Moisture and volatile matter (105°C.)	12.0	3.0
Inorganic Salts	3.0	3.0
Free fatty matter.....	3.0	3.0
Alkaline Salts, calculated as Na ₂ CO ₃ minus Na ₂ SiO ₃	0.30	1.00
Sodium silicate	1.00	0.10
Free alkali, calculated as NaOH	0.10	0.30
Free acid, calculated as oleic acid	0.30	0.50
Matter insoluble in water	0.50	To match approved sample.
Perfume	To match approved sample.	None
Rosin	None	None
Sugar	None	None

* Suggested organic detergent:

MP646 type
 (Dupont Company), or
 MP646 type and Ultrawet 40B

F. METHODS OF SAMPLING, INSPECTION AND TESTS.

F-1. Sampling.—Deliveries shall, in general, be sampled according to methods contained in Section F4b of Federal Specification P-S-536a wherein applicable. However, the Government reserves the right to use any additional available information to ascertain whether the material ordered meets the specification. Two sets of samples, each set consisting of no less than 24 4-oz. bars, shall be taken for test purposes; one set shall be stored at the Procuring Depot, and shall be used as a check sample in case of dispute, and the other set shall go to the testing laboratory.

F-2. Inspection.—Product shall be subject to inspection by authorized Government Inspectors. Acceptance or approval of product in course of manufacture shall in no case be construed as a guarantee of acceptance of finished product.

F-3. Tests.—Research and Development Branch, Military Planning Division, O.Q.M.G., shall designate the testing laboratory and shall govern acceptance or rejection of either bid sample or production lots.

F-3a. The methods described in Federal Specification P-S-536a, Soap, and Soap Products, General Specification (Methods for Sampling and Testing) shall be used in the following determinations:

Method	Test No.
Sampling	10.1
Preparation of Samples	10.2
Moisture and volatile matter at 105°C.	20.1 (Method A)
Matter insoluble in water	30.3
Rosin	70.1 (Method B)
Silica present as alkaline silicates ..	130.1
Qualitative test for sugars	170.1

F-3b. Reflectance of bar.—Bars shall be hand-shaken in distilled water at 25°C. for 5 minutes, water allowed to drain (stand on one end) for 5 minutes; and excess water removed by blotting with clean towel. Make reflectance determination on at least eight surfaces, using two flat sides of each bar, with a Hunter Multi-purpose Reflectometer (Reference: *Journal of Research of National Bureau of Standards*, Vol. 25, page 582 (1940)).

F-3c. Foam Test.—Add 25 ml. of the double-concentrated sea water (F-3f) to 25 ml. solution designated in line one, F-3k, in a 250 ml. glass-stoppered graduated cylinder. Adjust to 25°C., stopper, shake vigorously with sharply reversed longitudinal strokes made at the rate of 25 complete cycles in 30 seconds, unstopper, allow to stand 30 seconds, and then read net volume of foam (total volume minus liquid volume.)

F-3d. Soil Removal from Skin.—Wash the hands thoroughly, using the soap to be tested and tap water, and then dry thoroughly. Rub (with tip of one finger) 0.3 ml. (3 drops) summer-grade 600-W gear oil into the skin on back of one hand only. Test efficiency of soap by washing in 250 ml. water in 8 in. evaporating dish as follows:

- Apply soap to soiled area by 30-second rubbing with the soap bar;
- Continue emulsifying action by rubbing with other hand (without bar) another 30 seconds, using both lengthwise and crosswise strokes;
- 30-second rinsing.
- Dry the skin by blotting with towel.

Make three such determinations for each product for both (a) soft water (not over 10 grains hardness) and (b) synthetic sea water (E-3f). Complete removal of oil and stain by each washing is required.

F-3d. Soil removal from soiled swatches.

F-3e (1).—Preparation of soiled swatches.—Raw white, uncarbonized worsted cloth (Botany Worsteds Mills' Style No. 404 is suitable), conditioned 4 hours at 65% R. H. and 70°F., shall be uniformly soiled by immersing in the soiling solution and passing through a wringer under heavy pressure, repeating the process until the dried cloth has a reflectance of 30 (\pm 3.0) per cent. The soiled cloth is then dried at 100°C. for 1 hour. Soiled cloth shall not be stored for more than 15 days prior

to use. The soiling solution shall be:
 2.0 gm. tallow;
 6.0 gm. white mineral oil;
 0.125 gm. lampblack
 (Grinders No. 2);
 4 liters carbon tetrachloride.

F-3e (2).—Washing of soiled swatches.—Washing procedure shall be the same for all tests, varying only in kind of water as specified in each test. Procedure: Put 500 ml. 1% soap solution (20°C. to 25°C.) in 600 ml. beaker. Condition all swatches 4 hours at 65% R. H. and 70°F. prior to testing. Wash four 6" x 6" swatches simultaneously by 50 washing cycles, each cycle consisting of dipping up and down five times followed by hand-squeezing. Washing period shall be two minutes. Rinse in one 500 ml. portion of same kind of water used for washing (minus the soap product). Dry at 100°C. Reflectance is determined for the center portion of each side of each swatch; each measurement is made with the other 3 swatches placed back of the swatch being determined. Similar washing and reflectance determinations are made on 4 unsoiled swatches. All reflectance measurements shall be made on a Multi-purpose Hunter Reflectometer. Two sets of swatches shall be washed.

Set 1—4 soiled swatches in soft water
 ((not above 10 grains (171 p.p.m.) hardness))

4 unsoiled swatches in soft water

Set 2—4 soiled swatches in synthetic sea water

4 unsoiled swatches in synthetic sea water

F-3f. Double-concentrated sea water.—Shall have the following composition:

Magnesium chloride (MgCl ₂ ·6H ₂ O)	12.0 gm.
Anhydrous calcium chloride (CaCl ₂)	2.5 gm.
Anhydrous sodium sulfate (Na ₂ SO ₄)	4.0 gm.
Sodium chloride (NaCl) ..	25.0 gm.

Dissolve the calcium chloride in 400 ml. water, then add remaining chemicals, and dilute to 500 ml.

F-3g. Synthetic Sea Water.—Double-concentrated sea water is diluted with an equal volume of distilled water.

F-3h. Free alkali.—Dissolve 5.00 grams sample in 200 ml. freshly boiled neutral ethyl alcohol (94% or higher). Add .5 ml. 1% phenolphthalein and titrate with standard hydrochloric or sulfuric acid. Calculate result as per cent sodium hydroxide (NaOH).

F-3i. Free acid.—Dissolve 5.00 gram sample in 200 ml. freshly boiled neutral alcohol (94% or higher). Add 0.5 ml. 1% phenolphthalein and titrate with standard alcoholic potassium hydroxide. Calculate result as per cent oleic acid (C₁₇H₃₅COOH).

F-3j. Free fatty matter.—Dissolve a 5.00 gm. sample in a mixture of 70 ml. of distilled water and 30 ml. of ethyl alcohol or F-30 alcohol.

(Note: F-30 alcohol is 10% methyl alcohol and 90% ethyl alcohol, by volume.) Add 5 to 10 gm. sodium chloride to facilitate layer separation. Extract with three 50. ml. portions of cold petroleum ether in a 500 ml. separatory funnel. Dry the combined ether extracts with anhydrous sodium sulfate and filter through paper into a tared, 150 ml. beaker. Wash with small portions of petroleum ether. Evaporate the filtrate on a steam bath until the odor of petroleum ether is no longer perceptible. Dry the residue for 3 hours at 103°C. ($\pm 2^\circ\text{C}$), cool, reweigh the beaker, and calculate as per cent free fatty matter.

F-3k. Alcohol insoluble matter.*—Dissolve 20.0 grams (± 0.1 gm.) sample in 1,000 ml. distilled water. Evaporate a 100 ml. aliquot in a beaker to a volume of 10 ml., add 150 ml. absolute ethyl alcohol, and digest 30 min. on steam bath. Permit solution to settle, and decant the supernatant liquid through a tared Gooch crucible, into a tared 300 ml. Erlenmeyer flask, retaining the residue in the beaker as completely as possible. Add 25 ml. of 94% or higher alcohol to the residue, heat to boiling on the steam bath and allow the solution to settle. Decant the supernatant liquid through the Gooch crucible, retaining the residue in the beaker. Repeat the washing of the residue three additional times with 25 ml. portions of alcohol. Evaporate off any remaining alcohol, and dissolve the residue, which should have been retained as completely as possible in the beaker, in the smallest possible quantity (2 to 5 ml.) of hot, distilled water. Add slowly, while stirring, 50 ml. of absolute alcohol. (Solution and reprecipitation of alcohol insoluble matter is necessary for complete separation from certain synthetic detergents.) Heat solution to boiling on the steam bath, and filter. Transfer the residue quantitatively to the Gooch crucible by use of several small portions of alcohol, and finally wash the residue on the filter with several additional small volumes of alcohol. Dry the crucible and contents to constant weight at 105°C. ($\pm 2^\circ$) and calculate the per cent alcohol insoluble matter. Reserve the combined filtrate and washings.)

(* This may be sodium sulfate and other inorganic salts, except for a part of the sodium chloride (which is largely dissolved in the alcohol).)

F-3l. Alkaline Salts.—Wash the alcohol insoluble matter (F-3k), contained in the tared Gooch crucible, thoroughly with hot distilled water. Add 0.5 ml. methyl orange to the filtrate (combined washings), and titrate with standard hydrochloric or sulfuric acid. Calculate results as sodium carbonate (Na_2CO_3).

F-3m. Alcohol Soluble Matter.—Evaporate filtrate and washings obtained in "F-3k. Alcohol Insoluble Matter" to dryness on steam bath. Dry residue to constant weight in

an oven at 105°C. ($\pm 2^\circ$) (approximately 3 hours required). Cool in desiccator and weigh. Calculate weight of residue as per cent alcohol soluble matter.

F-3n. Anhydrous, salt-free, soda soap.—Dissolve the alcohol soluble matter (F-3m) in 100 ml. of distilled water, add 5 drops of methyl orange indicator solution, make just acid with 30% H_2SO_4 , and add 5 ml. excess of 30% H_2SO_4 . Add an equal volume of F-30 alcohol (See F-3j), and extract combined soap fats and free fatty matter with five 50-ml. portions of petroleum ether. Combine the petroleum ether extracts and wash with distilled water until the washings are no longer acid to methyl orange. Return all water extracts to the alcoholic solution (which is reserved for the determination of chlorides.) Dry the petroleum ether extracts with anhydrous sodium sulfate, and filter through paper into a weighed beaker. Wash with small portions of petroleum ether. Evaporate the filtrate on a steam bath until the odor of petroleum ether is no longer perceptible. Reweigh the beaker. Residue is Free Fatty Acids and Free Fatty Matter. Dissolve the fatty acids in 100 ml. of hot, neutral, recently boiled anhydrous alcohol and titrate with a 0.5N alcoholic KOH to phenolphthalein end point.

Per cent soda soap =
(Wt. of Fatty acids and free fatty matter) \pm (ml. KOH X N X 0.0220)
X 100 —
Weight of sample
(Per Cent free fatty matter)

F-3o. Determination of chlorides in alcohol soluble matter. Evaporate the alcoholic solution remaining from the extraction of fatty acids to one-half its volume. Cool to 25°C., precipitate synthetic detergent, which might interfere with chloride determination, with 100 ml. guanidine reagent. (This reagent is prepared by dissolving 20 g. of chloride-free and sulfate-free di-ortho-tolyl-guanidine in 30 ml. of glacial acetic acid, warming if necessary to obtain complete solution. Then dilute to 1,000 ml. with distilled water.) Stir vigorously and filter through a small Buchner funnel containing an asbestos mat about $\frac{1}{4}$ " to $\frac{1}{2}$ " thick. Wash the beaker and funnel three times with small portions of cold distilled water. To the filtrate add 5 ml. of 10% ferric ammonium sulfate solution, 10 ml. 1:10 H_2SO_4 , and 1.0 ml. of 0.1 N NH_4CNS solution. Add 0.1 N AgNO_3 solution from a burette to the disappearance of the red color. then a measured excess of not more than 10.0 ml. Filter off the AgCl and wash the precipitate thoroughly with distilled water. Titrate the excess AgNO_3 with 0.1 N NH_4CNS solution. Include the 1.0 ml. of 0.1 N NH_4CNS previously used in the total NH_4CNS consumed.

Chlorides calculated as per cent
 $\text{NaCl} =$
(ml. AgNO_3 X N) —
(ml. NH_4CNS X N) (5.845)
Weight of sample

F-3p. Synthetic detergent, by difference.—Calculate the per cent of anhydrous salt-free, synthetic detergent as follows: Per cent synthetic detergent = (per cent alcohol soluble matter) — (per cent soda soap \pm per cent fatty matter \pm per cent sodium chloride in alcohol soluble matter.)

F-3q. Calculation of inorganic salts.—Add the percentage of alcohol insoluble matter, determined as described in par. F-3k, and the percentage of sodium chloride in the alcohol soluble matter, determined as described in par. F-3m, to obtain the per cent of sodium sulphate and other inorganic salts.

G. PACKAGING, PACKING AND MARKING FOR SHIPMENT.

G-1. Packaging.—Unless otherwise specified in invitation for bids, soap, toilet, soft, hard or sea water, shall be 4-oz. bars of the following dimensions:

	Min.	Max.
Length	2 $\frac{3}{4}$ "	3 $\frac{1}{4}$ "
Width	1 $\frac{3}{4}$ "	2 $\frac{1}{4}$ "

Each bar shall be wrapped in single-layer dull-finish paper with light reflectance not above 20%.

G-2. Packaging.—Shall be specified in invitation for bids.

G-3. Marking.—

G-3a.—Packaging.—The following statement shall be printed in legible size on wrapping paper for each ar: "This soap is the result of extensive research by the Quartermaster Corps, and is designed to meet as many of your requirements as possible. It can be used for (1) toilet uses; (2) laundering of clothes; (3) cleansing mess kit and similar equipment; (4) shaving. It will do all these things in soft, hard or sea water at any reasonable temperature. Approved by the Office of the Surgeon General."

G-3b. Packing.—Shall be specified in invitation for bids.

H. NOTES.

H-1. Basis of purchase.—Shall be specified for each type. For material which conforms with all requirements, the net weight of the material to be paid for shall be calculated as follows:

H-1a. Type I—If more than 25.0 per cent volatile matter at 105° C., material shall be rejected without further test; if 25 per cent or less, settlement shall be made on basis of product containing 22.0 per cent volatile matter.

$$W = R X (100 - L)$$

78

H-1b. Type II—If more than 12.0 per cent volatile matter at 105° C., material shall be rejected without further test; if 12.0 per cent or less, settlement shall be made on basis of product containing 10.0 per cent volatile matter.

$$W = R X (100 - L)$$

90

Where: W = Net weight of material to be paid for;

(Turn to Page 70)



A collection truck of the Akron Soap Co. picks up the waste fats at the meat markets. Signs on company trucks, posters for store display, publicity tie-ins, all emphasize the essential need for glycerine from waste fats to fill the gap between reduced supply and increased war-time needs.

It has been estimated that if each family in the country salvaged a teaspoonful of waste fat per day, this would be a long step toward solving the soap maker's raw material problem. Monthly collections have mounted steadily since the drive was first inaugurated, but in the face of the growing food shortage more backing than ever for the fat salvage campaign would seem to be called for.



AKRON SOAP

EFFORTS being made by Akron Soap Co., Akron, Ohio, to stimulate local effectiveness of the fat salvage campaign in their own particular district are described in a recent letter from Don M. Pfeiffer, assistant secretary of the company and president of the National Renderers' Association. The work which the company is doing in the Akron district, incidentally, has been described by Allen Ames of Ames & Norr, publicity consultants of the soap and glycerine association, as the best example they have seen of effective local cooperation with the Fat Salvage Campaign.

As a first step, all of the accounts which the company serves were checked to make sure that they had and were using counter displays describing the importance of and the operating method behind the waste fat salvage campaign. To make sure that the butchers would have no possible excuse for being unfamiliar with the campaign, letters were mailed to all Akron Soap accounts explaining the campaign. This was followed up by a series of explanatory calls by Akron soap routemen. "Score Cards" were provided for each dealer, to carry a monthly record of the quantity of fats and grease turned in, and dealers were encouraged to keep them properly posted and prominently displayed. Clerks were provided for special periods with paper hats bearing the inscription "Save Your Waste Kitchen Greases and Bring Them Here." The

FAT SALVAGE PLAN

help of school children was also enlisted by having appropriate announcements made in the 46 elementary grade schools in the city of Akron.

Additional valuable publicity was obtained for the campaign through the cooperation of the *Akron Beacon Journal* which ran a complete picture story in a recent issue, showing how waste fats and greases should be collected and stored, how they are processed to recover the important glycerine content, and how the glycerine is used in many essential war uses. The accompanying photographs are taken from the picture story which appeared in the June 6 issue of the *Beacon Journal*.



Above—Cans are readied for treatment. Since the containers as well as the fats must undergo heat treatment, bottles and jars are unsuitable for collection of waste kitchen fats. A clean metal container is recommended, and collectors are urged to strain their stock, keep it cool, to avoid rancidity and glycerine loss.



The grease comes out of the vat ready for blending. On the average ten per cent of the weight of the fat represents recoverable glycerin. War time uses include munitions and drugs. It also enters into the composition of limitless chemical products used in military equipment. Reduced stocks have necessitated severe restrictions by FDA on civilian use of glycerine.

History of SYNTHETIC DETERGENTS

By Conrad J. Sunde*

Conservation Division, War Production Board

SYNTHETIC detergents, as we know them today, have played an important part in the war effort and will continue to play an increasingly greater part before the war is over. The first of the newer synthetic detergents to be introduced to the American market, according to Lawrence Flett,¹ was one of the gardinols manufactured in Europe. This took place about the year 1930. In the gardinols, we have fatty alcohol sulphates $R-OSO_3Na$, where the group R usually has 12 to 16 carbon atoms. Here we have an ester of the alcohol with sulfuric acid. These gardinols were a mixture of sulfates and perhaps some sulfonates made from alcohols derived from coconut oil. Charles E. Mullin² has given a very interesting discussion of this type of synthetic detergent in a series of articles which he started publishing in 1937.

During the past decade, a number of other types have been introduced commercially, such as:

(1) $R-COOC_2H_4-SO_3Na$. The group R again usually has from 12 to 16 carbon atoms. Here the solubilizing group is the sulfonate group and this molecule has an ester linkage.

(2) $R-COOCH_2CHOHCH_2-OSO_3Na$. Here again we have an ester group as the linking group and the sulfate as the solubilizing group.

(3) $R-CONH-C_2H_4-SO_3Na$. In this type we have the fatty acid amide group as the linking group and

the sulfonate or sulfate as the solubilizing group.

(4) $R_x-Ar-SO_3Na$, the alkylarylsulfonates. Here with one group R, the group has from 12 to 16 carbon atoms tied to an aromatic ring and the sulfonate group is the solubilizing group. When more than one aliphatic group is present, each alkyl group may be considerably shorter.

It was not until we had gained some understanding of the functions of the different parts of the soap molecule that the possibilities of the synthetic detergents were appreciated. In soap, we have the sodium or potassium salt of a higher fatty acid. The acid part may be saturated or unsaturated, and the length of the carbon chain varies from 12 carbon atoms in lauric, to 18 in stearic. However, regardless of the length of the carbon chain, we have a molecule $R-COOM$, in which we have a hydrophobic and a hydrophylic part, or an oil soluble and a water soluble part. The length of the carbon chain has a marked influence on the solubilizing effect of the carboxyl group. This is more marked in the case of ordinary soaps than in the case of synthetic detergents, since the solubilizing effect of the carboxyl group is less than the solubilizing effect of the sulfate or the sulfonate groups.

As we consider the salts of a homologous series of straight chain fatty acids, we find a change in properties as we go up the series, and only a few members of the series give useful cleaning agents. We find a similar change in properties as we consider a homologous series in the synthetic de-

tergent field. Thus, according to Mullin,³ the solubilities of the calcium and magnesium cetyl and stearyl sulfates are very similar, but that of the corresponding myristyl compound is at least 6 or 8 times as great, while calcium lauryl sulfate is about 10 times as soluble as the myristyl compound. Calcium decyl sulfate is about 100 times as soluble as the lauryl salt.

Salt water soaps in the past have been made from high lauric acid oils, particularly coconut oil. After Allied reversals in the Far East, our supply of suitable oils was sharply curtailed. This gave added impetus to the development of new types of soaps containing synthetic detergents. The extent to which industry was forced to curtail its use of coconut oil in soap-making, can be judged from a preliminary report by the Bureau of Census.⁴ The American soap industry used 484,124,000 pounds of coconut oil in 1941, while in 1942 they used only 140,487,000 pounds. These figures are perhaps more impressive when we consider that the industry used approximately 100,000,000 pounds during the first half of 1942, and only 40,000,000 pounds during the last half. At the same time, industry was faced with a curtailment of the supply of palm oil, palm kernel oil, and olive oil foots. The shortage of high lauric acid oils affected not only the manufacture of salt water soaps, but also the manufacture of several types of synthetic detergents and in particular, that of the higher alcohol sulfates. This has thrown an increasing burden on those synthetic detergents for which raw materials are still available.

*Paper presented at a meeting of Committee D-12 on Soaps and Other Detergents of the American Society for Testing Materials, June 8, 1943, New York. Released for use by Soap & Sanitary Chemicals with the permission of the American Society for Testing Materials.

The Armed Services, foreseeing the possible oil shortage, gave early consideration to the use of synthetic detergents as a possible substitute for coconut oil soaps. For example, Mr. T. A. Werkinthin⁵ of the Standards and Tests Section of the Bureau of Ships, Navy Department, Washington, D. C., started investigating synthetic detergents as early as 1938. This work was carried on in connection with the industry. The main stumbling block in developing a synthetic detergent in bar form which would act and look like soap to the average enlisted man, was the development of a suitable binding agent and diluent. Various materials, such as thiourea, urea, etc., were tried. The main difficulty was crumbling of the bar after use and a tendency to be deliquescent. The incrustations rendered the surface of the bar abrasive. It was not until someone of the industry suggested that ordinary soap might, contrary to accepted theories, serve the purpose, that this problem was solved. This has the additional advantage that existing soap-making equipment can be used.

As the work progressed, the personnel of the Section realized more and more that eventually a shortage of suitable oils would develop and that synthetic detergents would become a necessity for Navy use.

According to Ruckman, Hughes and Clarke⁶, the Naval Engineering Experimental Station, Annapolis, Md., developed a formula which uses three washes in salt water, two rinses in sea water, and a final rinse in fresh water. Some of the detergents tested gave results for salt water washing equal to the results obtained with a conventional soap formula using soap and alkali in soft water. This development makes possible a considerable saving of fresh water aboard ships.

IN the study by the Bureau of Ships⁶, on the relative cleaning efficiencies of solutions of detergents in synthetic sea water for the removal of soil from painted surfaces, a considerable number of cleaning compounds were included. The common types of synthetic detergents, alkalis, mixtures of synthetic detergents and alkalis, soap, mixtures

of soaps and synthetic detergents, and mixtures of soap and abrasives were tested. One of the synthetic detergents tested approximates the cleaning efficiency of the bar form of salt water detergent manufactured in accordance with the Bureau of Ships Ad Interim Specification 51-D-7 (INT).

For general use by all personnel, there is more waste due to taking excessive amounts with a powdered detergent than with a bar detergent. Hence, the bar detergent was developed for general purposes, and its development came at an opportune time. The Navy, in March, 1942, received bids on only one-fourth of the quantity of coconut oil soap they asked for, but their bar detergent was now ready to take over. The Bureau of Ships Specification, Detergent; Salt-Water, Bar Form, was issued on April 15, 1942; and on July 3, 1942, the first bids on this type of detergent were opened. Since that time, the Navy has purchased or has placed contracts for 32,000,000 pounds of this type of detergent.

In like manner, the Office of the Quartermaster General⁷ of the Army, even before Pearl Harbor, recognizing that they might be faced with a global war, started investigating possible detergents for use in the Mobile Laundry Unit. These investigations showed that synthetic detergents had advantages over the usual laundry cleaning agents for this purpose. In addition, due to the scarcity of the ordinary hard water soap materials, and because the older products do not possess the functional properties required in the Army today, a new product has been developed. This product contains, among other things, some synthetic detergents or mixtures of synthetic detergents. Functional requirements include toilet uses, shaving, laundering of clothes, cleaning mess kits and similar equipment in waters ranging from zero degrees hardness to a hardness equivalent to that of sea water at temperatures from near freezing to 100° F.

Because of the global nature of the war, all kinds of water are encountered for laundry and other washing operations. The use of sea water and

water that may be even worse has become a "must" with a resulting requirement for increasing amounts of synthetic detergents. Since the raw materials are restricted for those whose manufacture depends on various oils, an increasing part of the burden is falling on those made from non-critical or less critical materials. The ever-changing raw material situation has necessitated definite modification in synthetic detergents, both from the standpoint of manufacture and use. For the manufacture of the alkylarylsulfonates an aromatic compound is usually required which is also a critical chemical.

With requirements of the Armed Services for synthetic detergents increasing, and a limited production capacity available, it would seem that any considerable civilian use of these products does not appear possible in the near future. In addition, when considering the over-all fats and oils situation, the Department of Agriculture maintains and rightly so, that food uses come first. Hence, a series of orders have been issued limiting the uses, in particular, of vegetable oils. Materials used for making soap are under the restrictions of the following orders of the War Food Administration:

FDO-42—Restrictions on use of Fats and Oils. This order prohibits the use of certain fats and oils for making soap and restricts the amount of fats or oils that can be used for making soap for civilian consumption.

FDO-33—Required Recovery of Glycerin—This order limits the amount of glycerin that may be left in soap and sets up standards for glycerin recovery.

FDO-34—Restrictions on use, processing and delivery of glycerin. This order places glycerin under complete allocation with the usual small-order exemption.

FDO-38—Restrictions on use, consumption, processing, sale and delivery of palm oil. This order restricts the use of palm oil to certain specific uses including processes where glycerin is produced.

FDO-43—Restrictions on use, processing, sale and delivery of coco-
(Turn to Page 65)

THE WAY

IT LOOKS IN



Washington

WITH the air full of rumors about soap rationing, OPA officials deny any knowledge of the subject as this is written. It was said in those quarters that nobody had charge of the matter, that there is no rationing plan, that nothing was known about it. The determination appeared to be, if rationing is projected, that advance information on the subject must not be permitted to get out.

Industry representatives and government officials alike recognize the many complications that would be encountered in the rationing of soap, and it is probably safe to say that no move will be made in this direction if it can possibly be avoided. To start with, there would be the problem of hard and soft water districts. A fair ration for a user in a soft water district might not give a hard water district resident enough soap to work up a mild lather. A miner obviously needs more soap than a white collar worker. Families with small children need disproportionately large amounts of soap. Rationing, it is admitted, would encourage home soap manufacture, with resultant glycerine loss. And finally, one more complicated rationing program might be the final straw that would cause the wholesalers and retailers of the country to collapse under the endless bookkeeping and paper work with which they must already contend.

The current emphasis is thus on how the government and the industry can stimulate fat supplies so that rationing can be avoided. Stocks of coco-

by

H. C. HALLAM

nut oil, palm oil, fish oil, linseed oil, etc., have recently been released to soap makers in an effort to boost available fat stocks, and the latest move in this direction is the announcement that still further amounts of coconut and palm oils, edible animal fats, soybean oil, etc., are to be made available for soap use. Incidentally, it is understood that permission recently accorded to potash soap makers to use linseed oil has not been exercised to any great extent by the industry. Only a limited number of requests were made the first month for release of linseed oil, and for the second month of operation of the plan an even smaller number of applications has been filed.

Still another program whose proponents claim it would add to available fat supplies for soap making is the proposal that packers be required to trim off all excess fat from beef carcasses. This proposal has been under consideration by the Department of Agriculture for over a year, and failed of adoption some months back only upon the insistence of the packers that they lacked the facilities to process additional trimmings. The program is currently being given renewed consideration, with its proponents claiming

that it would protect the meat purchaser and also add to the available supply of tallow for soap making. The packers are still in opposition to the plan, and it is also being opposed vigorously by the renderers. They point out that if the maximum fat is trimmed by the packer, most of this will end up as edible fat, leaving even smaller amounts to work back to the soap industry through the rendering channels.

So keen is the government's search for additional oils that it is contemplated that the entire 1943 crop of peanuts will be bought up by Commodity Credit Corporation mostly for oil production, thus forcing confectionery manufacturers to find a substitute for peanuts in their products. That substitute may be soy beans, which have a lower oil content than peanuts.

Allocation of red oil appears to have been one object behind the placing of soap and all fats and oils and their derivatives on the list of products for which priorities must be issued by the War Food Administration. This was done in Amendment 1 to Food Distribution Regulation No. 1, by changing the definition of "food" so as to include the above commodities. Under the original regulation that term was limited as applying to fats and oils. As amended, the regulation includes all fats and oils from their raw stage through their processing.

It was pointed out officially that "this centralizes the issuance of priorities on fats and oils in the Food Distribution Administration. The FDA,

however," it was added, "will consult with WPB on the issuance of priorities for all industrial uses of fats and oils."

WPB had been controlling priorities of fatty acids (including red oil). WFA will now take over this job. It has been asserted that WPB priorities on red oil had been issued without regard to supply.

About the same time that the new food regulation amendment was issued, the Department of Agriculture announced allocation of animal, neat's foot and red oils, effective July 1.

The Department said that the demand for animal, neat's foot and red oils "has increased with the acceleration of wartime industrial activity, and their shortage is magnified by the shortage of tallow and grease, the raw materials from which they are manufactured." The allocation order defines animal oils as including "grease, (lard), oil, tallow oil, pig's feet oil" as well as other oils produced from animal fat.

"Allocation of these three oils will aid in the allocation of other fats and oils," said the Department. "For example, lard oil, a product of animal fats, and sperm oil are somewhat interchangeable—and the former can be used to extend the supplies of the latter. . . . By control of lard oil, the order will permit allocation of both lard and sperm oils to the best advantage."

The War Food Administration has released excess stocks of coconut and babassu oils for inedible use in industry. Any industrial user may apply to the Department of Agriculture for purchase of these oils. Perhaps 50,000,000 pounds of coconut oil have been estimated by industry representatives as released between February and June. Government requirements for such oils have been estimated at 100,000,000 pounds, which left an estimated 60,000,000 pounds available for release. Later reports indicate additional quantities will be released from government holdings.

Manufacturers who previously sold palm oil to the Commodity Credit Corporation from inventory stocks are permitted to re-purchase quantities equivalent to the original sale, the War Food Administration has announced.

To Amend FDO-42

AN AMENDMENT to FDO-42 is expected shortly which if issued in the form at present contemplated will make available considerable quantities of added raw materials for soap manufacture. Restrictions on the use in soap of a number of animal fats are expected to be lifted. Such materials as edible tallow, oleo stearine, rendered pork fat and possibly even uninspected lard may thus be released for the soap kettle. Release of soybean oil, whale oil and fish oil is also contemplated. The new amendment, it is reported, will reduce the soap maker's quota on oil use from the present figure of 84 to a new level of only 80%. Carryover of unused portions of second quarter quotas beyond June 30 may be allowed, however, to allow soap makers who have not been able to get raw materials in sufficient quantities in the first half of the year to operate above the 80% level over the balance of the year. Another optimistic note in the present picture is the report that an additional 90,000,000 lbs. of coconut oil and 25,000,000 lbs. of palm oil are shortly to be released for soap use.

Applications for such repurchase were required to be filed with the Fats and Oils Branch by June 10. The estimated quantity made available by the order was 12,000,000 pounds. In a new announcement dated June 28 it is indicated further release of government holdings of palm oil and inedible tallow will be made. Applications must be filed with the FDA by July 15th.

WFA having announced expectation of increased imports of linseed oil and flaxseed, the crushers' industry advisory committee¹ of FDA, meeting recently in Washington, discussed plans for their receipt and distribution. Crushers were requested to furnish FDA with figures showing the quantities of Argentine flaxseed crushed by them during the last five years. It was indicated that allocation of the incoming seed would be made on that basis. Orders were proposed, according to WFA announcement, that would (1) remove from Food Distribution Order No. 42 all regulations regarding delivery of linseed oil and include them in a separate order to cover its delivery and distribution; (2) require that a portion of the linseed oil production after July 1 be offered to FDA for purchase; and (3) require the offer to FDA of certain grades of oil in present inventories of producers and manufacturers.

WFA asked more edible oil refiners to submit offers on hydrogenated linseed oil shortening for purchase and export under Lend-Lease. This was discussed at a recent meeting of the FDA edible oil refiners food advisory committee. FDA told the committee that it contemplated early purchase of linseed oil margarine, and that the Army and Navy specifications for salad oil now allow for use of corn oil.

Canada expects increased oilseed production this year, including an increase of about 70 per cent over last year to 2,500,000 acres in flaxseed. Meanwhile Argentina has prohibited vegetable oil exports. Modifying the AAA program, WFA urges that wherever practicable acreages in excess of present goals should be planted in flax, peanuts, soybeans and certain other named crops.

WPB has placed diethylethanolamine under allocation and removed triethanolamine from allocation. These materials are used in making waxes and polishes, pharmaceuticals, etc.

By Amendment 34 to Revised Price Schedule 53, OPA has placed under price ceilings what its officials call intermediate grades of refined oils such as cottonseed, soybean and peanut, effective June 10. Ceiling prices range from \$12.57 to \$14.68 per 100 pounds.

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RAW MATERIALS

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NEWS

Toiletries Trade Show July 12

The Chicago Associated Toiletries Salesmen will hold their second annual trade exposition at the Palmer House, Chicago, July 12 to 17. The entire seventh floor of the hotel will be used for the affair in which more than seventy exhibitors will participate, according to W. R. Tenney, of Lenthalic, Inc., president of the association.

Shulton Has House Organ

Shulton, Inc., soap and toiletry manufacturers, New York, have just started publication of a house organ called *The Shulton Magazine*, which made its first appearance with the June issue. Miriam Gibson, publicity director, is managing editor, and Francis J. O'Brien, personnel manager, is editorial consultant. In addition to A. J. Grodin, art editor, Ruth Ann Bolway, associate editor, and Viola Addeo, assistant editor, the staff includes seventeen reporters representing various branches and departments of the company.

Offer New Floor Cleaner

Lacey-Webber Co., Kalamazoo, Mich., has announced a new floor cleaning compound, Fibre-Tex, in 50-pound cartons, described as a fireproof, oil-absorbent product for use in industrial plants, service stations, etc.

Stop "Cleanette" Claims—FTC

Cleanette Products Co. and National Solvent Corp., Cleveland, have agreed with the Federal Trade Commission to refrain from using the word "moth preventive" and "keep out moths" to describe their cleaning preparation "Cleanette." Claude Frantz of Cleanette Products further agrees to stop using on letterheads

and advertising the words "makers of" to show that he owns or operates the factory in which "Cleanette" is made.



Howard G. Young, formerly sales manager of the bulk department of Davies-Young Soap Co., Dayton, Ohio, was commissioned recently as a naval lieutenant. He is now in training at Fort Schuyler, New York.

Credit Men Elect Felio

Earl N. Felio of Colgate-Palmolive-Peet Co., Jersey City, N. J., was elected first vice-president of the New York Credit Men's Association at the group's annual meeting recently.

D.C.A.T. Names R. E. Dorland

Victor E. Williams, chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade, has appointed Ralph E. Dorland, Eastern sales manager of Dow Chemical Co., as the section's representative on the parent board of directors, to fill the unexpired term left vacant by the death of Frank J. McDonough, head of New York Quinine & Chem. Corp. Mr. Dorland was chairman of the section in 1940. Since that time he has served as a member of its advisory council.

New California Soap Co.

A new soap company, Urb Medicated Soap Co., will be founded shortly according to a declaration of intention filed by Maurice M. Grudd of North Hollywood, Calif. Business is planned to be conducted at 7245 Claybourne Avenue, Roscoe, Calif., according to the announcement.

BIMS Hold First Outing

BIMS of New York opened their war-shortened golf season with a group of 75 members and guests on hand at Wykagyl Country Club, New Rochelle, N. Y., June 23. War Bonds amounting to \$250 were awarded as prizes to the winners by Martin Schultes of Hewitt Soap Co., who was chairman. The second and final tourney Mr. Schultes announced would be held at Garden City Country Club, Tuesday, August 24. Among the winners at the first tournament were: William H. Blanc, McKesson & Robbins; Harris Whitaker, Hudnut Sales Co.; Peter L. Forsman, C. H. Forsman & Co.; Leonard H. Schultes, Hewitt Soap Co., Inc.; David J. Stewart, Jr., Yardley & Co.; Paul E. Forsman, C. H. Forsman & Co.; Emory Wright, United Drug Co.; Pierre Harang, Houbigant Sales Corp.; Burton T. Bush, Bush Aromatics, Inc.; Edward A. Bush, Bush Pan America, Inc.; Harry Badanes, McKesson & Robbins; Clarence E. Clark, Whittaker, Clark & Daniels, Inc.

Dr. Katz Is Guest Lecturer

Following an extensive tour of Florasynth branches in the southwest and parts of Mexico, Dr. Alexander Katz, chief chemist, appeared as a guest lecturer recently at the University of Southern California and Occidental College in Los Angeles.

MASK

YOUR SPRAYS and INSECTICIDES

with these **LOW-PRICED DEODORANT SPECIALTIES**



The following widely used specialties are recommended because they are time-proven, easy to use, low in cost and unfailing in results:

NEUTROLEUM

For fly sprays and other preparations based upon petroleum distillates. It neutralizes and perfumes at very low cost.

THANITE DEODORANTS

Several types available depending upon whether the unpleasant odor of Thanite is merely to be neutralized or if, in addition, the finished spray is to be mildly scented. Regardless of type selected, these deodorants completely mask the objectionable Thanite effect.

DEODORANT P-36

Offered especially for sprays based upon Lethane 384 Special. Does a complete job of deodorization at negligible cost.

JAVOLLAL

An effective substitute for citronella. Imparts a cleaner, more agreeable odor to insecticides and disinfectants.

SAFRELLA

Closely resembles artificial sassafras in odor and strength. Replaces it in insecticides, germicides and other technical mixtures, — and at much lower cost.

ALSO a complete line of Essential Oils, Aromatic Chemicals and Basic Perfume Raw Materials for soap and insecticide manufacturers, as well as the technical and laboratory services and facilities to aid our customers in using these materials to best advantage. Write us for details.

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS
BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.
FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE



In our Country's Service



Animal Fat Control Urged by John Gordon

THE urgent necessity of adopting some national program looking toward conservation of animal fats, to supplement the present elaborate controls over use of vegetable oils, is stressed in a recent letter received by the editor of *Soap* from John B. Gordon, Bureau of Raw Materials for American Vegetable Oils and Fats Industries. He speaks very strongly in favor of a program which has been under consideration by Government agencies for over a year for removal of loose fats from beef carcasses before shipping from the packing houses. The purpose of such an order would be to divert tallow to the soap industry, rather than to have it go to the meat buyer as unwanted suet, perhaps to be wasted by him, and in any case constituting an unwanted diluent in his meat purchases.

T. O. Asbury, former chief of the Edible Oil Unit of the Fats and Oils Section of WPB, is authority for the estimate that such an order would result in the recovery of no less than five hundred million pounds of tallow and lard. In the face of the serious shortage of fats and oils for soap manufacture, this would represent a very welcome addition to soap raw material supplies.

The proposal seems to have the endorsement of the U. S. Department of Commerce, to judge from the following statement issued by that body: "It is in the animal fat field that conservation of wasted resources offers the greatest opportunity to adjust supplies to needs. Even under peacetime standards of less urgent needs for available fat supplies, it is inconsistent to sell as meat, unwanted fat that is wasted. Under war conditions, the vegetable oil industry is controlled to a greater extent than most domestic consumer industries in an all-out effort to produce the largest possible output. There

is an urgent need to put our production of animal fats on the same basis."

The lack of interest which the packing industry has shown in this project up to the present is quite understandable. They are presently selling their shop fats at meat prices, and can well be expected to want to continue to do so. As for their own position as soap manufacturers, they have not suffered from short raw material supplies up to this point as have other soap makers, since the packers control tallow stocks. The apparent injustice of the present situation, in view of the many restrictions on the vegetable oil producer, is the basis of critical comment in Mr. Gordon's communication.

"In the vegetable oil field," he points out, "every pound of oil-seed is carefully watched after by the WFA and when the oil is produced it is carefully doled out. On the other hand,

there is the most prodigal waste of animal fats. One is bound to ask 'Why, in the face of such careful and complete control of the producers of vegetable oils, should there be such a complete lack of conservation practiced in the animal fat field?' Every vegetable oil producer has his business regulated to the nth degree. None of them complain of this regulation because they realize it is in the interest of the war effort. It does not sit well with them, however, to see the packing house industry absolutely free of any regulation designed to save tallow, which is the most important domestically produced raw material from the viewpoint of the soap manufacturer."

No Golf for Boston BIMS

Cancelling the golf tournament which had been scheduled for June 25, the BIMS of Boston are now contemplating an "indoor outing" at the University Club which would consist of a day of bowling, ping pong matches, billiards, cards, swimming, etc. The golf outing at Commonwealth Country Clubs was called off because of gasoline restrictions. The club is now being canvassed by mail to determine whether the members favor the alternate idea of an "indoor outing."

OPA Asks Soap Price Data

THE office of OPA in Washington is understood to have started a price survey of the potash soap field and in a general letter to the trade late last month requested manufacturers to supply considerable information about their lines. Each firm was asked to fill out a form listing every brand of industrial soap sold, specifying every type and size package over five pounds net weight for each brand sold. They were also asked to accompany this information with a copy of their latest price list. The letters were signed by William E. Fairbanks of the OPA staff. It is not known as yet just what the OPA may have in mind in collecting this information, but in other indus-

tries similar requests have often indicated that the OPA was simply trying to build up its general price background on the particular industry. The OPA, incidentally, has ample authority to collect information of this type.

Cut Oil Use for Coatings

A further cut in the use of raw, crude, refined and pressed oils, whether vegetable, animal or fish, excepting mineral and tall oil for use in protective coatings was announced June 17 by the WPB through the issuance of Conservation Order M-332. This order augments Food Distribution Order 42 which was formerly M-71.



Rosin Stocks Rise

Although production declined slightly during the 1942-43 naval stores crop year, stocks of rosin as of March 31, 1943 were 170,000 barrels higher than for the corresponding date in 1942. A sharp drop in rosin consumption—nearly 700,000 barrels—appears to account for the rise in stocks, according to figures just released by the U. S. Department of Agriculture's 1942-43 annual Naval Stores Report. Production during the period from April 1, 1942 to March 31, 1943 amounted to 2,069,754 barrels (a barrel being 500 pounds gross) as compared with 2,135,593 barrels produced during the corresponding period in the previous year. At the same time, use of rosin in soap also declined during the 1942-43 period as compared with 1941-42. Since there was a concurrent drop in soap production it is difficult to say whether the decline in rosin use existed percentage-wise as well. In the 1942-43 period, 238,658 barrels of rosin were used in soap, and 251,368 barrels in the 1941-42 period. Insecticides and disinfectants took 5,704 barrels in 1942-43 as compared to 1941-42's consumption of 5,669 barrels. Other users whose total consumption dropped sharply in the most recent period was that of shoe polish and shoe materials. In 1941-42,

The Soap and Glycerine Industries Food Advisory Committee, pictured at a recent meeting in Washington. Reading from left to right, the members are: E. H. Little, President, Colgate-Palmolive-Peet Co.; J. S. MacIntosh, President, Holbrook Mfg. Co.; E. A. Moss, Vice President, Swift & Co.; A. R. Robson, Vice President, Fels and Co.; L. Webb, Jr., President, Hunnewell Soap Co.; Russell H. Young, President, Davies Young Soap Co.; G. Tuckerman; A. L. King, FDA; Dr. C. W. Lentz, Acting Chief, Soap and Glycerin Division, Fats and Oils Branch, FDA; Col. C. T. Prindeville, Chief, Fats and Oils Branch, FDA; E. W. Wilson, Consultant, FDA; E. B. Hurlburt, Pres., J. B. Williams Co.; G. A. Wrisley, Consultant, FDA; W. A. McConlogue, FDA; N. S. Dahl, General Mgr., John T. Stanley Co.; Dan Flick, General Mgr., Armour & Co., Soap Works; R. F. Elder, Asst. to Pres. (alternate), Lever Brothers Co.; C. J. Huff, Pres., Procter & Gamble Co.

12,151 barrels were used for these products, and in 1942-43, 9,509 barrels were consumed.

Chemical Salesmen's Tournament

The Salesmen's Association of the American Chemical Industry held its first golf tournament of the season at Garden City Country Club, Garden City, L. I., June 8. The following list of prize winners was announced:

Class A—Low Gross, H. R. Miller, Hercules Powder Co.; Class B—Low Gross, P. C. Reilly, Reilly Tar & Chemical Co.; Class C—Low Gross, Geo. F. Smith, Geo. F. Smith; Class A—Low Net, H. Herrmann, General Dyestuff Co.; Class B—Low Net, H. Cottrell, Innis-Speiden & Co.; Class C—Low Net, Paul Hiller, Innis-Speiden & Co.; Guests—Low Gross, R. B. Lowe; Guests—Low Net, Bud Keeley, *Beauty Fashion*; High Gross, Geo. Muechler, McKesson & Robbins; Kickers Prizes, V. E. Williams, Monsanto

Chemical Co.; Kickers Prizes, H. C. Green, National Aniline & Chemical Co.; Kickers Prizes, W. C. Harmon; Guests Kickers, J. W. Atherton, Atherton & Currier; Door Prize, \$25 War Bond, C. R. Dolmetch. Special Door Prize donated by Seldner & Enequist, won by William Barry, Mallinckrodt Chemical Works.

Army Award to Ritchie

The Chicago Ordnance District of the United States Army has awarded the Army Ordnance Banner to the management and employees of W. C. Ritchie and Co., package manufacturers, for "meritorious production" of war goods. The company has been making grenades, humidity measuring devices for the adjustment of machine guns, detonator nestings, ration packages and a wide assortment of oil and weather proof containers for foods, industrial devices, etc.

TRADITIONS OF NIAGARA

Hub of Trade



ENGRAVING BY JOHN HEATH, REPRODUCED THROUGH COURTESY OF THE NEW YORK PUBLIC LIBRARY

EVEN BEFORE the white man came, Niagara was the hub of Indian trade routes that reached out to the north and west and south to the Mississippi. Today "The Falls" is the center of a large and still-growing commercial and manufacturing region that is typical of America's industrial might.

Right now, as the source of many vitally needed supplies, the Niagara area is more im-

portant to America than ever before. And Niagara Alkali Company as part of this area carries on its pioneering traditions by finding new and better ways to speed up the production of essential chemicals—basic materials in the manufacture of many products upon which the successful completion of the war depends.

CAUSTIC POTASH • CAUSTIC SODA • PARADICHLOROBENZENE
CARBONATE OF POTASH • LIQUID CHLORINE

An Essential Part
Of America's
Great Chemical
Enterprise



Niagara ALKALI COMPANY
60 EAST 42nd STREET. NEW YORK, 17, N. Y.



FDA Releases Coconut, Babassu Oils for Soap

RELASE from government stockpiles of an unspecified quantity of coconut and babassu oils for inedible use in industry was announced early last month by the War Food Administration. Principal anticipated use will be in the manufacture of soaps. The announcement of the anticipated release specified that applications from industrial users must be filed by June 19 in the form of letters or telegrams to the Fats and Oils Branch, Food Distribution Administration, Washington, D. C. The following information was to accompany such applications: Consumption of high lauric acid oils for inedible purposes in 1940 and 1941 (by years); inventory of high lauric acid oils June 1, 1943 including that purchased but still unused and the quantity under negotiation for purchase from CCC; any preference between coconut and babassu oils; and whether or not tank car delivery can be accepted.

Buyers who cannot accept tank car delivery will make purchases "in the storage tank," furnishing drums and paying all loading out charges. Buyers are to stipulate that oils purchased from the reserves will be used in their own manufacturing processes, and in accordance with Food Distribution Order No. 43, regulating high lauric acid oils, as well as other orders governing fats and oils. Purchasers having no glycerine recovery equipment are to stipulate that they will have the oil split under terms of Food Distribution Administration Order No. 33—requiring recovery of glycerine—and use the resulting fatty acids in their own manufacturing processes. They must also give the name of the fat splitter to be employed.

This is the third release of frozen stocks of high lauric acid content oils since the government stockpile program was first instituted. Release of the first and second "freezes"

earlier this year allowed users to repurchase from the Commodity Credit Corporation approximately sixty million pounds of oil. This third release, it is estimated, may amount to approximately thirty million pounds. It is generally believed that the price at which sales will be made will be the ceiling level fixed by the OPA.

In a publicity release originating with the OWI and accompanying announcement of the release, it was explained that recent imports of copra have made the release possible. Unofficial opinion in the industry includes several other possible factors,—notably that storage space is lacking for expected heavier arrivals of additional stocks of tropical oils, and that the government has found it desirable to put stored stocks of oils into process before glycerine content is further reduced by additional deterioration resulting from storage.

Allocate Red Oil

Red oil, neats foot oil and animal oils were placed under allocation effective July 1 by issuance of Food Distribution Order 53. Users must file applications with the FDA on or before the tenth day of the month preceding the month in which delivery is desired. Exceptions to the allocation status are provided for users who require no more than the following amounts in any one calendar month: 500 lbs. or less of animal oil; 500 lbs. or less of neats foot oil; 2,200 lbs. or less of red oil. Under this exception clause the total quantity which one person may use or accept delivery of in any one month shall not exceed 2,200 lbs.

Define Soap as "Food"

Both soaps and fatty acids are defined as foods in a new definition included in Food Distribution Regulation No. 1, issued May 29 by the Food

Distribution Administration. The amended regulation now carries the following definition of "food."

(2) The term "food" means all commodities and products, simple, mixed, or compounded, that are or may be eaten or drunk by either humans or animals, irrespective of other uses to which such commodities or products may be put, and at all stages of processing from the raw commodity to the product thereof in a vendible form for immediate human or animal consumption, and including all starches; sugars; tobaccos; vegetable, fish, marine, animal and animal fats and oils, whether edible or inedible, and including their by-products and residues (whether resulting from refining, distillation, saponification, pressing or settling); sulfated, sulfonated, sulfurized fats and oils; tall oil; wool grease; soap; fatty acids; and glycerine.

Study of the amended regulation is recommended. One reason is that every purchase order for soap issued by the Army, Navy, Coast Guard, Marine Corps, etc., now bears an automatic FR-10 rating, which may be "extended" to fats, oils, and fatty acids only when authorized in writing by the contracting officer.

Urge Early Oil Ordering

Users of soybean, peanut, corn and cottonseed oils in the manufacture of inedible products are urged particularly in a recent release from the Food Distribution Administration to place their orders with suppliers by the 5th of the month preceding month of delivery. It is pointed out that emergency needs may still be handled through interim allocations, but that early anticipation of regular needs will contribute greatly to the smooth operation of the entire fats and oils distributing program. The FDA release also reminds that industrial consumers of rationed fats and oils should obtain their ration certificates and turn them over to suppliers well in advance of delivery.

COPAIBA OIL

Another in his series of searching and informative articles on essential oils and aromatics has been prepared by Dr. Ernest Guenther of Fritzsche Bros., Inc., for our August issue. It covers copaiba and copaiba oil which originate in the Amazon valley of Brazil, and which have wide application in the perfuming of soaps.



CONCENTRATING ON CONCENTRATES

Concentrates serve in more ways than one these days — as an aid to war effort — as an aid to continuous concentrated production. Every bit of valuable space saved in shipping allows just so much more for critical materials — implements for the war effort.

Yet concentrates are not merely a matter of convenience or wartime expediency. Years ago, manufacturers realized the amazing utility of Florasynth's concentrated flavoring materials. They found that in the citrus line of concentrates — in two, five, and tenfold strength — they had at hand Citrus Oils of an excellence unsurpassed.

That manufacturers through the years have relied on Florasynth concentrates is "case history" of their effectiveness. That, in days such as these, they can still — for the greater part — depend on their availability and consistency is representative of the ingenuity, research, and resources of Florasynth.

*"Pioneers in the Creation and Development
of Concentrated Citrus Oils"*



CHICAGO • DALLAS • DENVER • LOS ANGELES • NEW ORLEANS • SAN FRANCISCO • SEATTLE
FLORASYNTH LABS. (CANADA) LTD.—MONTREAL • TORONTO • VANCOUVER • WINNIPEG FLORASYNTH LABORATORIES DE MEXICO S. A.—MEXICO CITY



Florasynth
LABORATORIES, INC.
1533 OLMSTEAD AVE., NEW YORK, N. Y.

Meinhardt & Co. Move

J. A. Meinhardt & Co., Chicago, manufacturers of soaps, cleaning compounds, mops and sanitary specialties, moved early last month from their former location at 440 N. Halsted St., to new quarters in a modern, four-story building at 2622-2628 South Shields Ave. Here 40,000 sq. ft. of floor space will be utilized to accommodate a rapidly expanding business. On May 24 executives and employees staged a housewarming at the new plant at which over 1,500 persons were present for the reception and tour of the establishment. Included in the crowd were most of the delegates to the National Sanitary Supply Association's convention which was in session in Chicago that week.

Form Oil Brokers Assn.

A group composed of the leading brokers in the country have just formed the National Fats and Oils Brokers Association, with the object of aiding industry and the Government in the distribution of allocated and unallocated, edible and inedible fats, oils, oil cake and meal throughout the country. The Association further hopes to maintain the present high code of ethics of brokerage practices and to promote cooperation and goodwill between all those associated with their industries. Officers of the Association are: Marvin Wood, Chicago, President; William B. Burr, Chicago, Vice-President; C. G. Carter, Memphis, Secretary-Treasurer.

Following are the Directors: D. A. Lacy, Dallas; Carr Robinson, Dallas; W. L. Cain, Atlanta; Lysle Alderson, New York; Brayton Wilbur, San Francisco; A. J. Sumner, Memphis; J. G. Lusk, Greenville, Miss.; Carl Smith, Chicago; M. A. Raclin, Chicago.

Stults 45 Years with W-H-C

E. D. Stults, head of Welch, Holme & Clark Co., New York, suppliers of oil, fats and chemicals to soap makers, will complete his 45th year with the company on August 1. He recalls that it was August 1, 1898, when he was first put on the Welch, Holme & Clark payroll by the late Andrew M. Sherrill. Mr. Stults was

16 years old at the time and his qualifications for the job included eight months' experience with the firm of



E. D. STULTS

Wilkinson, Gaddis & Co. in Newark, N. J., coupled with a desire to get into a firm which would offer him opportunity for advancement. Following the death of Mr. Sherrill in 1927, Mr. Stults was elected secretary of the company. Two years later he advanced to the post of vice-president, and late in 1929 was elected president of the company.

Rimer Rhodes V.P.

Lewis K. Rimer, formerly treasurer, has been elected executive vice-president of James H. Rhodes & Co., Chicago and Long Island City. The firm deals in abrasives, pumice stone, steel wool, chamois, sponges, etc. In his new capacity Mr. Rimer will have general supervision of all company activities.

Proctor & Schwartz Head Dies

Frederick Kershaw, president of Proctor & Schwartz, Inc., Philadelphia, manufacturers of soap drying equipment, died recently at the age of 58. Mr. Kershaw had been connected with the firm since 1898. He left the company in 1907 to attend college, but was called back to fill an important executive post before graduation. He was a member of the Philadelphia Rotary Club, The Union League, The Philadelphia Country Club, The "Wolves and Lambs" Club and the Wayfair Club.

Special Hand Cleaner

"Den-Tex" is a new nontoxic cleansing cream formulated by Dennis Chemical Co. of St. Louis. The cream is to be worked into paint, adhesives, etc., on the hands, and can then be readily rinsed off with water, leaving the pores clean and the skin soft.

Monsanto Official Authors Book

Edgar M. Queeny, chairman of the board of Monsanto Chemical Co., St. Louis, has just completed a new book "The Spirit of Enterprise" which was to be released early in July. The book presents the author's appraisal of the economic experimentation that has been going on in this country for the past ten years and leans very definitely to the belief that the best interests of the people will in the long run be best served by an economy of free enterprise as opposed to an overgrown centralized bureaucracy. Quoting from the author's remarks as to his reasons for writing the book, he has found business and business men much misunderstood. "My businessmen friends were not saints nor were they ogres feeding upon unfortunate fellow-beings, as some high priests of the social sciences were intimating. . . . Some were rich, but they were not wicked. Most were selfish, but so were a great many workers of my acquaintance. Some might hit below the belt, but so did some labor leaders and some politicians."

Soapmaking in Eire

In Eire at present there are six sizable plants engaged in soap production, together with another six or so smaller concerns. With a view to keeping consumption within reasonable limits, the Government of Eire has introduced a coupon-rationing scheme to ensure equitable distribution and also to prevent hoarding. No person may purchase more than six ounces of household soap, six ounces of toilet soap, or twelve ounces of soap powder monthly. It is hoped that this plan will enable manufacturers to effect a wider spread of domestic and imported raw materials. Purchases of soap by industrial concerns can be made only under license.

**Will it be
s-m-o-o-t-h?**



—with new oils or substitutes

You'll appreciate the velvety smoothness of the soaps made with the new ingredients and PQ Silicate. True, you may have to shift formulas a bit during this emergency, but it is possible to avoid "spreckles", and crumpling if you're making flakes.

Whatever oils you are using, there's a way to incorporate a PQ Silicate to produce quality soaps,

—quality in appearance and performance. The answer in your plant may be a different silicate from that which has been your regular brand, or it may be an increase in the quantity of the silicate incorporated.

If you have a problem, we're always ready to try to help. Detergent silicates have long been a specialty with PQ.

ARE YOU FAMILIAR WITH THESE PQ SILICATES?

"N"—Popular low alkaline solution, 41° Baumé. Approximate ratio: 1:3.22.

"K"—More alkaline than "N", a 47° Baumé solution. Approximate ratio: 1:2.90.

"C"—Alkaline solution, 59.3° Baumé. Approximate ratio: 1:2.00.

SS-C-Pwd.—Anhydrous powdered sodium silicate. Ratio: 1:2.00. Slowly soluble.

Ask for Bulletin 17-1: describes over 30 PQ Silicates.



PHILADELPHIA QUARTZ CO.

SILICATES OF SODA

125 S. THIRD STREET, PHILA., PA.

Soap Fat Use Declines

CONSUMPTION of primary animal and vegetable fats and oils by the soap industry during the first quarter of 1943 totaled 415,711,000 pounds, according to figures just released by the U. S. Bureau of the Census. This represents a slight decline from the total for the fourth quarter of 1942 when 427,145,000 pounds of primary fats and oils went to the soap kettle. Neither total, incidentally, takes into account foots or fatty acids, which are not reported by the Census Bureau. Since foots and fatty acids* have over the past year gained so considerably in their importance as soap-making raw materials, any conclusions which may be drawn from totals which exclude these raw materials are obviously apt to be faulty.

On the basis of the figures as reported, first quarter oil and fat consumption by the soap industry represented a decline of approximately 11 per cent from the average 1942 quarterly total. Consumption of primary fats and oils by soap makers during the entire year 1942 totaled some 1,870,556,000 pounds.

Tallow and grease made up over 90 per cent of the soap maker's reported raw material pool for the first 1943 quarter. Some 267,457,000 pounds of inedible tallow were used, and 110,690,000 pounds of grease. Consumption of crude coconut oil dropped to 10,053,000 pounds as compared with 12,525,000 pounds in the fourth quarter of 1942 and 140,487,000 pounds for the full year of 1942. An additional 6,068,000 pounds of refined coconut oil was used by soap makers in the 1943 first quarter. Of fish oil 10,669,000 pounds went to the soap kettle in the first quarter of 1943,

a decline from the 16,813,000 pounds used in the fourth quarter of 1942.

Other important items in the list of soap making raw materials for the first quarter of the current year included 4,059,000 pounds of crude palm oil, 1,160,000 pounds of olive oil foots, and 1,773,000 pounds of crude babassu oil. The complete list of soap making raw materials used during the first quarter of 1943 follows. Figures are given in thousands of pounds.

Total	415,711
VEGETABLE OILS:	
Cottonseed, crude	189
Cottonseed, refined	40
Peanut, crude or virgin	70
Peanut, refined	12
Coconut, crude	10,053
Coconut, refined	6,068
Corn, crude	196
Corn, refined	46
Soybean, crude	367
Soybean, refined	484
Olive, inedible	131
Olive, sulphur oil or olive foots	1,160
Palm kernel, refined	110
Palm, crude	4,059
Palm, refined	718
Babassu, crude	1,773
Babassu, refined	684
Rapeseed	1
Linseed	492
Castor No. 3, crude	9
Castor, sulphonated	68
Other vegetable	140
ANIMAL FATS:	
Stearin, animal, edible	14
Tallow, edible	10
Tallow, inedible	267,457
Neat's-foot oil	14
FISH AND MARINE	
MAMMAL OILS:	
Marine mammal oils	7
Fish oil	10,669
GREASES:	
Greases, other than wool	110,690

Pepsodent Executive Changes

Charles Luckman, former vice-president, was elected president, Kenneth G. Smith, for many years president, became chairman of the board, and James A. Barnett, who was with the advertising agency of Sherman & Marquette, has been made a vice-president, as has Henry F. Woulfe, newly made general manager, in recent personnel shifts at Pepsodent Co., Chicago. Mr. Luckman, who is 34, left the Cincinnati branch of Colgate-Palmolive-Peet as division manager

eight years ago to become sales promotion manager at Pepsodent. Later he was raised to sales manager, vice-president in charge of sales and advertising, and last year executive vice-president. Mr. Barnett was account executive for Colgate-Palmolive-Peet at Sherman & Marquette advertising agency before leaving to join Pepsodent. Mr. Woulfe, who was named general manager last fall, has been with Pepsodent Co. for the past eighteen years.

W. P. Van Iderstine Dies

W. P. M. Van Iderstine, former owner with his brother, Charles, of a fat rendering and tallow manufacturing plant in Long Island City, N. Y., died June 13 at his home in Brooklyn, at the age of 77. He was a native of New York and a graduate of City College. The Van Iderstine firm was founded by his father, Peter Van Iderstine, in 1855. The family retired from ownership and management of the firm many years ago.

New Small-Size Turco Pkg.

Turco Products, Inc., Los Angeles and Chicago, is offering its new dishwashing compound in a new package containing five pounds. The product was formerly sold only in barrels and the smaller container was devised as being the easiest size for checking the amounts distributed to each dishwashing machine. In addition to its use for cleaning dishes and glassware, suggestions on the new package recommend its use for mopping floors, cleaning silverware or coffee urns and for other purposes. A promotional campaign directed to the hotel, restaurant and institutional field is under way.

See Record Flax Crop

A 28 per cent increase in flaxseed acreage in 1943 over that seeded in 1942, favorable weather conditions and improved planting techniques are reported to augur a record crop. Conservative estimates put the total acreage at six million, and based on an average acre yield of 8.2 bushels, a probable harvest of 50,000,000 bushels has been predicted.

* Figures have just been released by C. W. Lenth, acting chief of the Soap and Glycerine Division, Fats and Oils Branch of the FDA, showing consumption of foots and fatty acids for the first quarter of 1943. The total quantity of secondary fats, which includes foots, fatty acids, stearine, red oil, etc., was approximately 70 million pounds. Unfortunately no breakdown of this total is available, and no comparable figures are available for the years 1941 and 1942.

CROWN

is in this picture TWICE



No, none of the more familiar Crown products of peacetime are on view!

But the canisters that hold the filter elements for those gas masks are a Crown wartime product... produced by the million in the Crown plant to safeguard military, naval and civilian users.

And those waterproof metal ammunition boxes are another Crown product... another example of the way all of Crown's facilities have been enlisted in

the service of a nation at war!

Meanwhile... the less dramatic but no less necessary products... cans in which to pack food for fighting men and for the home front... cans for the essential products which can not be successfully packed in other ways... continue to roll from Crown's production lines! Crown is doing double duty these days!

CROWN CAN COMPANY, New York • Philadelphia. *Division of Crown Cork and Seal Company*, Baltimore, Md.

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CROWN CAN

BIDS

AWARDS

FDA Soap Awards

Awards in recent openings of the Food Distribution Administration of the Department of Agriculture for miscellaneous supplies were as follows: 360,000 pounds of blue mottled soap to John T. Stanley Co., New York, 6.6c per pound; 450,000 pounds of blue streaked laundry soap to John T. Stanley Co., New York, at 6.15c per pound; 1,000,000 pounds of blue streaked laundry soap to Armour & Co. of Delaware, Chicago, 6.21 per pound; 780,000 pounds of laundry soap to Tennessee Soap Co., Memphis, at 5.84c per pound; 1,500,000 pounds of laundry soap at 5.45c to Armour & Co. of Delaware, Chicago; 1,530,000 pounds of laundry soap to Procter & Gamble Dist. Co. of Cincinnati at 5.775c; 480,000 pounds and 720,000 pounds to Colgate-Palmolive-Peet Co., Jersey City, N. J., at 5.66c and 6.17c respectively; 500,000 pounds of laundry soap at 5.427c to Lever Bros., Cambridge, Mass.; 250,000 pounds of toilet soap at 14.4c per pound to Allen B. Wrisley Distributing Co., Chicago.

Low N. Y. Navy Bids

In recent openings by the New York Navy Purchasing Office, New York, for miscellaneous supplies, the following low bids were received: Du Bois Co., Cincinnati, 33c a gallon on 5,280 gallons of liquid degreasing compound in 55 gallon drums; John Powell & Co., New York, \$5,582 on 5,000 gallons of 20 to 1 pyrethrum concentrate, including 91 drums at \$10 each; Washine National Sands, Long Island City, \$8.20 in kegs, item A, \$8.70, item B, \$11.55, and item C, \$11.51 on 198 (100 pound) drums of dishwashing compound; City Chemical Corp., New York, 94.8c on 1,000 gallons of carbon tetrachloride cleaner; Soilicide Labs., Montclair, N. J., item A, 5.176c, item B, 5.206c, item C, 5.696c, item D, 5.956c, item E, 5.956c on 3,999,744 two-ounce shaker-top type containers

of insecticide powder for body lice; Ponds Extract Co., New York, item A, 6.762c, item B, 6.796c, item C, 7.393c, item D, 7.393c, item E, 7.393c, on 8,666,600 (two-ounce applicator type) bottles of liquid insect repellent; Solvay Sales Corp., New York, 1.45c on 50,000 pounds of washing soda crystals.

Low P. O. Soap Bids

The following bids were entered in a recent opening for laundry soap by the Post Office Department, Washington, D. C.: Los Angeles Soap Co., Los Angeles, 6.5c on 1,320 pounds; Pioneer Soap Co., San Francisco, 6c on 1,320 pounds; and Procter & Gamble Dist. Co., Baltimore, 5.43c on 113,700 pounds.

Fuld Low on Marine Opening

A low bid of 69c on 500 gallons of disinfectant entered by Fuld Bros., Baltimore, was accepted by the Marine Corp., Philadelphia, in a recent opening for miscellaneous supplies.

Low FWA Toilet Soap Bid

Dixie Janitor Supply Co., Washington, D. C., entered low bids of \$75 and \$136 on two items of an unspecified quantity of toilet soap in a recent opening for miscellaneous supplies by Manager of Public Buildings of the Federal Works Agency.

Disinfectant Award to Huggins

James Huggins & Son, Malden, Mass., received awards for 4,400 gallons of phenolic disinfectant at \$1,672; 180 gallons at \$77.40; and 1,100 gallons at \$440 in a recent opening for miscellaneous supplies by the Veterans Administration, Washington, D. C.

N. Y. Navy Purchase Bids

Lehn & Fink Products Corp., Bloomfield, N. J., submitted the following low bids on several parts of a recent opening of the New York Navy Purchasing Office, New York, for

100,000 one-quart cans of type B cresolic disinfectant: a, 27.14c, CL, 27.54c LCL; b, 27.78c CL, 28.50c LCL; c, 32.02c CL, 38.86c LCL; d, 32.02c CL, 38.86c LCL; e, 32.02c CL, 38.86c LCL.

Sole Panama Soap Bid

The only quotation in a recent opening of the Panama Canal, Washington, D. C., for 50,000 pounds of soap powder and 2,500 pounds of toilet soap was made by Procter & Gamble Distributing Co., Baltimore, with a bid of 6.04c a pound, 12 42-ounce packages to the case.

Panama Canal Bids

The following low bids were received in recent openings by the Panama Canal, Washington, D. C., for miscellaneous supplies: soap powder and toilet soap (unspecified quantities), Kamen Soap Products Co., Barberton, O., \$1,945; rust preventive compound (quantity unspecified), Viscosity Oil Co., Chicago, \$412.50.

Low Navy Mop Bids

White Mop Wringer Co., Fultonville, N. Y., entered low bids of \$2.52 on the 14-quart size and \$3 on the 22-quart size in a recent opening by the Navy Bureau of Supplies, Washington, D. C., for 36 mopping outfits.

P&G Largest Advertiser

Two of the leading soap companies were the largest and second largest users of advertising in 1942, a recent survey compiled by the Bureau of Advertising of the American Newspaper Publishers Association reveals. Number one in the top ten was Procter & Gamble, and runner up was Lever Brothers. P&G moved from second place which it had held since 1939, Lever Brothers rose from fourth place in 1941 to second place in 1942. Colgate, while still in the first ten dropped from fifth place in 1941, its previous high point, to eighth in 1942. Complete conversion to the exclusive manufacture of war products caused General Motors to vacate top position which it had held in the three years previous to 1942.

Schimmel
for synthetics

Imitation Citronella Ceylon II
Imitation Citronella Java II

THESE two Schimmel synthetic substitutes are especially recommended for effective perfuming of household and floating soaps, fly sprays, insecticides, and in other products in which citronella is customarily used.

•

Write us on your firm's letterhead for samples and prices.

•

Schimmel & Co., Inc.

601 West 26th Street

New York, N. Y.

Chicago • Cincinnati • Cleveland • Los Angeles • San Francisco • St. Louis

TRADE MARKS

The following trade - marks were published in the June issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks

SPRUSUP—This in upper and lower case letters for shoe polishes and cleaners for white shoes. Filed Feb. 15, 1943 by Gem Products, Inc., Milwaukee, Wis. Claims use since Dec. 31, 1942.

DRAX—This in upper case extra bold letters for wax emulsions which make absorbative fibrous and non-fibrous materials water proof and water repellent. Filed Feb. 27, 1943 by S. C. Johnson & Son, Inc., Racine, Wis. Claims use since Sept. 16, 1942.

MOTHTONE—This in upper and lower case script letters for mothproofing paints. Filed Mar. 19, 1943, by The Mothtone Co., Needham, Mass. Claims use since Mar. 13, 1943.

NORMA—This in upper case, reverse stencil lettering on polygon figure for paste silver polish, enamel, tile, wall and window cleaner, etc., in powdered and liquid form. Filed Jan. 1, 1943 by Norma Chemical Co., Mount Vernon, N. Y. Claims use since 1938.

CELOPON—This in upper case stencil letters for detergents in liquid or paste form for use in water in the processing of textiles. Filed Feb. 22, 1943 by Arkansas Co., Newark, N. J. Claims use since July, 1939.

SUPERTROL—This in extra bold, upper case letters for cleaning compound for industrial cleaning of metals, etc. Filed Mar. 24, 1943 by Turco Products, Inc., Los Angeles. Claims use since Oct. 29, 1939.

BRYLFOAM—This in bold upper case letters for shampoo. Filed Aug.

10, 1942 by The County Perfumery Co., Bloomfield, N. J. Claims use since July 9, 1942.

4 EES FOR FOOT EASE—This in reverse letters on black octagon for preparation for the treatment of athlete's foot. Filed Oct. 27, 1942 by Ada Machin, New York. Claims use since Aug. 1942.

SHANGRILA—This in upper case bold letters for shampoos, tooth pastes, etc. Filed Mar. 24, 1943 by Chemical Center Corp., New York. Claims use since Mar. 1, 1943.

HAND-WARDEN—This in bold upper case letters on a rectangular sheet held in a hand for a protective hand cream. Filed Mar. 27, 1943 by Windsor-Lloyd Products, Inc., Philadelphia. Claims use since Mar. 1, 1943.

ANSUL—This in extra bold upper case letters for colloidal sulphur for use as a fungicide and insecticide. Filed Mar. 29, 1943 by Ansul Chemical Co., Marinette, Wis. Claims use since Dec. 28, 1931.

LETHOGAS—This in extra bold upper case letters for a fumigant. Filed Apr. 7, 1943 by Parsons Chemical Works, Grand Ledge, Mich. Claims use since June 16, 1933.

BYSULOX—This in extra bold upper case letters for herbicide and weed killer. Filed Apr. 6, 1943 by General Chemical Co., New York. Claims use since Mar. 4, 1943.

LADY HELEN—This in script letters for a floor wax. Filed Mar. 31, 1942 by Gamble Stores, Inc., Minneapolis. Claims use since Jan., 1938.

ROYAL PALM—This in upper case letters over the figure of a palm tree that overlooks a section of land and sea for a paint brush cleaner and wax remover. Filed May 7, 1942 by Royal Palm Products, Scranton, Pa. Claims use since April, 1938.

SKOOT—This in bold script letters for delousing leg bands for chickens, and other fowl. Filed Mar. 29, 1943 by Lawrence A. Lockwood

Co., Chicago. Claims use since Mar. 10, 1939.

UNIT-SUDS—This in bold upper and lower case letters for washing compounds. Filed Dec. 19, 1942 by Reade Manufacturing Co., Jersey City, N. J. Claims use since Oct. 23, 1942.

'76—This in bold figures for shoe polish. Filed Mar. 27, 1943 by General Shoe Corp., Nashville. Claims use since Feb. 10, 1943.

PROTECTITE—This in bold upper case letters for leather dressing. Filed Apr. 5, 1943 by The Protectite Co., Houston, Tex. Claims use since Mar., 1942.

C&S CHEMICAL SUPPLY CO.—This in upper case letters for a solvent used in cleaning boilers, corroded pipes, engine jackets, etc. Filed Mar. 12, 1942 by C&S Chemical Supply Co., Chickasha, Okla. Claims use since March, 1939.

BARRETT—This in reverse script letters on a black disc for disinfectants, insecticides, naphthalene, etc. Filed Oct. 28, 1942 by Allied Chemical & Dye Corp., New York. Claims use since Nov., 1941 and Mar., 1941.

NPD—This in bold upper case letters for oil of citronella, tincture of green soap, glycerine, white petroleum jelly, etc. Filed Feb. 4, 1943 by National Package Drugs, Inc., St. Louis. Claims use since Jan. 15, 1938.

APLOCOP—This in upper case letters for fungicides, solvents, etc. Filed Feb. 17, 1943 by Applied Chemical Corp., New York. Claims use since Jan., 1942.

BONAT GLEEMOL—This in upper case and script reverse letters for shampoos. Filed Feb. 20, 1943 by Bonat & Bonat, Inc., New York. Claims use since Nov. 1, 1942.

CREMADERM—This in bold upper case letters for a cream ointment base. Filed Mar. 13, 1943 by William R. Warner & Co., New York. Claims use since Mar., 1943.

DESYLAN—This in bold upper and lower case italic letters for disinfecting solution. Filed Mar. 15, 1943 by New Products Laboratories, Chicago. Claims use since Feb., 1942.

AD—This in upper and lower case open letters at the base of an incomplete circle for detergent prepara-

ANTOINE CHIRIS

Antoine Chiris was established in France in 1768 and all through these years pioneered in the development of its long-known worldwide organizations. The American branch was established in New York in 1899.

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PERFUME BASES

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PIERRE DHUMEZ ET CIE

ETS ANTOINE CHIRIS
GRASSE, FRANCE

PILAR FREDERICK

ANTOINE CHIRIS, LTD., LONDON, ENGLAND

tions. Filed Mar. 2, 1943 by F. E. Everson, New York. Claims use since June 15, 1942.

GLANA—This in upper case bold stencil letters for soap powder. Filed Apr. 21, 1943 by the Selig Co., Atlanta. Claims use since Apr. 1, 1943.

SELOPHEN—This in bold upper case stencil letters for disinfectant, germicide, and antiseptic. Filed Feb. 1, 1943 by The Selig Co., Atlanta. Claims use since Dec. 20, 1942.

ALATOL—This in bold upper case stencil letters for disinfectant, germicide, and antiseptic. Filed Apr. 6, 1943 by The Selig Co., Atlanta. Claims use since Mar. 19, 1943.

U-C-FLOR—This in upper case letters for polish and cleaner for floors and furniture. Filed July 29, 1942 by United Chemical Co., Inc., Kansas City, Mo. Claims use since Nov., 1939.

Trade Marks Granted

401,505. Acid cleanser composition. Filed by P. W. Bonewitz Co., Burlington, Iowa, assignor to the Rex Co., Burlington, Iowa, Dec. 31, 1941. Serial No. 449,882. Published Mar. 16, 1943. Class 4.

401,506. Acid cleanser composition. Filed by P. W. Bonewitz Co., Burlington, Iowa, assignor to the Rex Co., Burlington, Iowa, Dec. 31, 1941. Serial No. 449,883. Published Mar. 16, 1943. Class 4.

401,517. Preparation for removing spots, and for cleaning finished surfaces. Filed by Jackson of London Products, New York, Mar. 18, 1942. Serial No. 451,117. Published Mar. 16, 1943. Class 4.

401,529. Caustic soda, soad ash, and caustic ash. Filed by Pittsburgh Plate Glass Co., Pittsburgh, July 15, 1942. Serial No. 454,237. Published Mar. 16, 1943. Class 6.

401,535. Mops and mop heads. Filed by W. A. Ballinger & Co., San Francisco, Sept. 7, 1942. Serial No. 455,389. Published Mar. 16, 1943. Class 29.

401,554. An ammonia substitute. Filed by Parsons Ammonia Co., Inc., New York, Nov. 21, 1942. Serial

No. 456,960. Published Mar. 16, 1943. Class 6.

401,571. Cleansing compound having water softening properties, a cleaning compound for wall washing, paint cleaning, etc. Filed by Economics Laboratory, Inc., St. Paul, Dec. 14,

THE LAUNDRY vs. BACTERIA

The role of the commercial laundry in the control of disease-carrying bacteria is the subject of an article by Lloyd W. Wright, Philadelphia Quartz Co. scheduled for the August issue of SOAP AND SANITARY CHEMICALS. Progressive destruction of bacteria by a correctly designed laundry formula is studied by the author through the course of the normal laundering operation. Data is presented to indicate the superior anti-bacterial protection given laundered garments through commercial laundering as compared with other types of cleaning.

1942. Serial No. 457,388. Published March 16, 1943. Class 4.

401,579. Liquid cleanser. Filed by Cole Laboratories, Inc., Long Island City, N. Y., Dec. 19, 1942. Serial 457,521. Published Mar. 16, 1943. Class 4.

401,599. Moth exterminating preparation. Filed by Jean Vivaudou & Co., Inc., New York, Jan. 13, 1943. Serial No. 457,904. Published Mar. 16, 1943. Class 6.

401,608. Metal polish. Filed by Oil Specialties & Refining Co., Inc., Brooklyn, Jan. 18, 1943. Serial No. 457,989. Published Mar. 16, 1943. Class 4.

401,610. Toilet soap. Filed by Billy B. Van, doing business as Billy B. Van Sales Co., Newport, N. H., Jan. 20, 1943. Serial No. 458,054. Published Mar. 16, 1943. Class 4.

401,704. Cleaning preparation for the metal parts of a gun. Filed by Knorr-Maynard, Inc., Detroit, Dec. 30, 1942. Serial No. 457,653. Published Mar. 23, 1943. Class 4.

401,710. Cleaning compound. Filed by The Diversey Corp., Chicago, Jan. 7, 1943. Serial No. 457,791. Published Mar. 23, 1943. Class 4.

401,751. Glycerine substitute. Filed by United Chemical Co., Inc., Kansas City, Mo., July 29, 1942. Serial No. 454,586. Published Mar. 30, 1943. Class 6.

401,754. Cleaning compound. Filed by The Cowles Detergent Co., Cleveland, Sept. 3, 1942. Serial No. 455,299. Published Oct. 27, 1942. Class 4.

401,767. Petroleum solvent for removing rust. Filed by The George F. Hutter Co., Buffalo, N. Y., Nov. 18, 1942. Serial No. 456,889. Published Mar. 23, 1943. Class 6.

401,771. Shaving cream. Filed by Beacon Sales Co., Cleveland, Nov. 30, 1942. Serial No. 457,118. Published Mar. 30, 1943. Class 4.

401,781. Germicidal and fungicidal preparations. Filed by Medical Chemicals Inc., Baltimore, Dec. 19, 1942. Serial No. 457,526. Published Mar. 30, 1943. Class 6.

401,802. Ammonia substitute. Filed by Seeman Brothers, Inc., New York, Jan. 21, 1943. Serial No. 458,082. Published Mar. 30, 1943. Class 6.

401,860. Wetting agent, emulsifier, etc. Filed by Chemical Marketing Co., Inc., New York, June 12, 1942. Serial No. 453,615. Published April 6, 1943. Class 6.

401,905. Shaving stick. Filed by Frederick Charles Co., Union, N. J., Jan. 20, 1943. Serial No. 458,042. Published Apr. 6, 1943. Class 28.

Standco Export Changes Name

The name of the export corporation which operates as a subsidiary of Standard Synthetics, Inc., New York, essential oils and perfuming materials, has just been changed from Standco Export Corp. to Standchem Export Corp. The change in name was made to eliminate possible confusion with the name "Stanco" used by Standard Oil Co. of N. J.

Newton to Advise Q.M.C.

Dr. Roy C. Newton, vice president and director of research for Swift & Co., Chicago, has been named an adviser to the office of the army quartermaster on problems of feeding the army, according to an announcement from the War Department.



RESEARCH has proved two things — (1) Malmstrom's Nimco Brand Lanolin is better for 5 big reasons—A-N-D (2) Malmstrom's Nimco Brand Lanolin is America's No. 1 choice . . . *the largest selling Lanolin in the U.S.A.*

Today, when quality standards are harder to maintain,

Malmstrom has a greater responsibility than ever before . . . for today Malmstrom has *more customers to satisfy than ever before.*

To this endeavor, we pledge our efforts, our experience and our resources so that

American Industry can benefit from Malmstrom improvements in the quality and value of Nimco Brand Lanolin and allied products.



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5 WAYS
BETTER**

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2. GREATER **UNIFORMITY**
3. BETTER **COLOR** QUALITY
4. SMOOTHER **TEXTURE**
5. FINER **BODY** CONSISTENCY

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America's
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LANOLIN • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical
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147 LOMBARDY STREET • BROOKLYN, NEW YORK

STOCKS CARRIED IN CLEVELAND • CHICAGO • KANSAS CITY • MINNEAPOLIS

MARKETS

As of June 28, 1943

SOME relief from the pressure on the soap maker as a result of the oils and fats tightness was foreseen late last month when it became known that the Food Distribution Administration would issue an altered form of FDO 42. The revised form of the order which superseded M-71 will make available heretofore prohibited types of fats and oils to be used in the manufacture of soap. It will also reduce the soap maker's quota from 84 to 80 per cent of the amount of fats and oils used in the base period. The larger quota was pretty meaningless anyway since few soap makers could obtain sufficient raw materials to bring them up to the allowable quota.

Although the soap maker's fat and oil quota will probably be reduced in the new order from 84 to 80 per cent, it is thought likely he will be permitted to use up in the following quarter that portion of his quota he did not consume in the previous quarter. This carry-over is in addition to the new 80 per cent quota and would in many cases represent an increase above the former 84 per cent. Under the pre-revision form of FDO 42 carry overs were not allowable.

What the Food Distribution Administration is said to be going to make available for use in the soap kettle are the semi-edible animal fats, edible tallow, oleo oil, oleo stearin and uninspected grades of lard—provided the latter are available and the soap maker is willing to pay the price for such supplies as he may be able to obtain.

Further relief for the soap maker is envisioned in the proposal on the part of the War Food Administration to release an additional ninety million pounds of coconut oil and twenty-five million pounds of palm oil for use

in the manufacture of soap. This move to release high lauric acid oils augments previous releases granted the soap industry in cases where the soap maker was allowed to repurchase palm and coconut oils he had previously sold to the Commodity Credit Corporation following freeze orders. The oils it is planned to release will probably come from the ever-mounting stock piles which have been building since the entry of the United States into the war. Washington opinion also indicates soybean oil may be made available for soap use.

Sodium phosphate, defined to mean di sodium phosphate, tri sodium phosphate, tetra sodium pyrophosphate, sodium tetra phosphate, sodium hexameta phosphate (in soluble form only) and sodium tri poly phosphate, has been placed under complete allocation by the War Production Board, effective July 1. This move, requiring specific WPB authorization for delivery, was made in Order M-334, issued June 16. Exceptions to the order include delivery to any person of 1,000 pounds or less a month. Manufacturers requiring 10,000 pounds or less per month must present suppliers with a form showing the amount required, the month in which the delivery is to be made, and the use for which it is purchased.

Production of fats and oils from domestic materials in the 1942-43 crop year is now estimated at less than 11 billion pounds, nearly one billion pounds under the estimate of last December, but one billion pounds above production in 1941-42, according to a recent issue of the Fats and Oils Situation, issued by the U. S. Department of Agriculture. Estimated production of animal fats is also down as a result of a small hog and cattle slaughter in federally inspected establishments than

was anticipated, a scarcity of meat scraps for rendering in Eastern areas, and a considerably smaller yield of lard per hog than in 1941-42 despite heavier weights of hogs marketed.

Activity in the perfuming materials markets was held to a minimum mainly through the lack of adequate supplies. For the most part price changes were few, although in one or two instances, where shortages do exist, price increases were reported. Spanish spike lavender, in fair stock and with the possibility of replacement held out, eased off a little in price. It is now being quoted in a \$4.75 to \$5.00 price range. Citronella and geranium stocks are badly depleted with no price changes reported. Allied domination of the Mediterranean has not as yet provided any sort of key to the solution of the supply situation. It was hoped Madagascar would furnish this country with much needed supplies as soon as the Mediterranean came under Allied control, but up to the present time there has been no substantial relief from this quarter.

Offer Blown Castor Oil

The War Food Administration has just announced that consideration will be given to applications by industrial consumers for authority to use stocks of blown castor oil which have been frozen since last March 24 when Food Distribution Order No. 32 became effective. Applications to use the frozen stocks should name the products to be manufactured; and their end uses; and give the estimated time necessary to consume the quantity of oil requested. They should be filed with the Fats and Oils Branch, Food Distribution Administration, Washington, D. C., on Form FDA 478.

When the War is over

FATTY ACIDS *will still be*

Less expensive on a unit cost production basis. Easier to control than corresponding whole oils. More uniform in chemical characteristics. Absolutely reliable in quality.

THE LEADING PRODUCER WILL STILL BE

WOBURN

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Harrison, N. J.

RAW MATERIALS FOR THE SOAP INDUSTRY

Lamepon K A soapless and limestable
detergent for Textiles, Soaps, Insecticides,
Sanitary Cleaners, Laundry Products.

Lamepon 4C A foaming and wetting agent of
slightly acid reaction for cosmetics.

For samples and information write to

WELCH, HOLME & CLARK CO., Inc.
563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

PRICES

(As of June 24, 1943)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums.....lb.	\$.08½	\$.09
Acid, Boric, bbls., 99½%.....ton	99.00	116.00
Cresylic, drums.....gal.	.81	.83
Low boiling grade.....gal.	.81	.83
Muriatic, C. P., carboys.....lb.	.06½	—
Oxalic, bbls.....lb.	.11¼	.12¼
Alcohol, Ethyl, drums.....gal.	11.90	12.01
Complete Denat., SD1, dms., ex. gal.	.62	.67
Alum. Potash lump, bbls.....lb.	.04½	—
Ammonia Water, 26°, drums.....lb.	.02¼	.02½
Ammonium Carbonate, tech., drums.....lb.	.08½	.09¼
Bentonite.....ton	11.00	16.00
Bleaching Powder, drums.....100 lb.	2.50	3.60
Borax, pd., bbls., bags.....ton	50.00	66.00
Carbon Tetrachloride, car lots.....gal.	.73	1.17
L. C. L.....gal.	.80	1.27
Cresol, U.S.P., drums.....lb.	.10%	.11¼
Cresote Oil.....gal.	.141	—
Feldspar, works.....ton	14.00	20.50
Formaldehyde, bbls.....lb.	.05½	.06¼
Fullers Earth.....ton	8.50	15.00
Glycerine, C.P., drums.....lb.	.18%	.19¼
Dynamite, drums.....lb.	.18%	.18%
Saponification, drums.....lb.	.12%	—
Soap lye, drums.....lb.	.11½	—
Lanolin, U.S.P., hydrous, drums.....lb.	.32	—
Anhydrous, drums.....lb.	.33	—
Lime, live, bbls.....ton	6.25	14.50
Mercury Bichloride, drums.....lb.	2.34	2.39
Naphthalene, ref. flakes, bbls.....lb.	.08	.08½
Orthodichlorobenzene.....lb.	.07	.08
Paradichlorobenzene, drums.....lb.	.11	.15
Petrolatum, bbls. (as to color).....lb.	.028	.06¼
Phenol (Carbolic Acid) drums.....lb.	.10½	.11¼
Pine Oil, drums.....gal.	.55	—
Potash, Caustic, solid.....lb.	.06¼	.06%
Flake, 88-92%.....lb.	.07	.07½
Liquid, 45% basis.....lb.	.03½	.03½
Potassium Carbonate, solid.....lb.	.06½	.06%
Liquid.....lb.	.03	.03½
Pumice Stone, coarse.....lb.	.03%	.04
Rosins (net. wt., ex dock, New York)——		
Grade D to H.....100 lb.	3.65	4.17
Grade I to N.....100 lb.	4.18	4.42
Grade WG to X.....100 lb.	4.51	4.90
Rotten Stone, dom., bags.....lb.	.0128	.019
Silica.....ton	17.00	38.00
Soaps——		
Tallow Chip, 88%.....lb.	.11	.11%
Powder, 92%.....lb.	.11%	.12
Powdered, White Neutral.....lb.	.25½	.42
Olive Oil Base.....lb.	.40	—
Shampoo Base.....lb.	.18	.20
Liquid Concentrate, 30-32%.....gal.	.75	.79
Soda Ash, cont., wks., bags, bbls. 100 lb.	1.15	3.25
Car lots, in bulk.....100 lb.	.90	—
Soda Caustic, cont., wks. solid.....100 lb.	2.30	3.55
Flake.....100 lb.	2.70	3.55
Liquid, tanks, 47-49%.....100 lb.	1.92¼	1.95

Soda Sal., bbls.....100 lb.	1.20	1.40
Sodium Chloride (Salt).....ton	14.20	18.00
Sodium Fluoride, bbls.....lb.	.07	.08¼
Sodium Bisulfate.....100 lb.	2.25	2.50
Sodium Metasilicate, anhyd.....100 lb.	4.00	5.30
Granulated.....100 lb.	2.50	3.55
Sodium Pyrophosphate.....100 lb.	5.28	6.60
Sodium Silicate, 40 deg., drum.....100 lb.	.80	1.20
Drums, 52 deg. wks.....100 lb.	1.40	1.80
Tar Acid Oils, 15-25%.....gal.	.27½	.33½
Triethanolamine.....lb.	.19	.20
Trisodium Phosphate, bags, bbls. 100 lb.	2.70	4.15

Oils — Fats — Greases

Babassu, tanks, futures.....lb.	.1110	Nom.
Castor, No. 1, bbls.....lb.	.15¼	.16
No. 3, bbls.....lb.	.13%	.14¼
Coconut (without excise tax)		
Manila, tanks, N. Y.....lb.	.0835	—
Tanks, Pacific Coast, futures.....lb.	No Prices	—
Copra, bulk, coast.....lb.	No Prices	—
Corn, tanks, West.....lb.	.12%	.15%
Cottonseed, crude, tanks, mill.....lb.	.12%	—
PSY, futures.....lb.	.13%	.14¼
Fatty Acids——		
Corn Oil, tanks, Chicago.....lb.	.14	.14¼
Coconut Oil, tanks, Twitchell, Chi. lb.	.17½	.18
Cotton Oil, tanks, Chicago.....lb.	.14	.14¼
Settled soap stock, Chicago.....lb.	.03%	.04
Boiled soap stock, 65%, Chi.....lb.	.04%	.05
Foots, 50%, Chicago.....lb.	.03%	.03%
Castor Oil, split, tanks, N. Y.....lb.	.20%	.21¼
Linseed Oil, split, tanks, N. Y.....lb.	.18½	—
Distilled.....lb.	.21	.21½
Myristic acid, distilled, tanks, N.Y. lb.	.19	.19¼
Palm Oil, white tanks, N. Y.....lb.	No Prices	—
Single distilled.....lb.	No Prices	—
Soybean Oil, split, tanks, N. Y.....lb.	.1175	—
Distilled.....lb.	.1389	.1400
Red Oils, bbls., dist. or sapon.....lb.	.1325	.1425
Tanks.....lb.	.12%	—
Stearic Acid, saponif.		
Double pressed.....lb.	.15%	.16%
Triple pressed.....lb.	.18%	.19%
Greases, choice white, tanks.....lb.	.08¼	—
Yellow.....lb.	.07%	—
Lard, city, tubs.....lb.	.1400	—
Linseed, raw, bbl.....lb.	.1530	—
Tanks, raw.....lb.	.1490	—
Olive, denatured, bbls., N. Y.....gal.	4.10	4.20
Foots, bbls., N. Y.....lb.	.19	Nom.
Palm, Sumatra, cif. New York, tanks lb.	No Prices	—
African, tanks, ex. ship.....lb.	.08¼	Nom.
Palm, kernel.....lb.	No Prices	—
Peanut, crude, tanks, mill.....lb.	.13	Nom.
Soya Bean, domestic, tanks, crude.....lb.	.11%	Nom.
Stearin, oleo, bbls.....lb.	.1054	—
Tallow, special, f.o.b. N. Y.....lb.	.08½	—
City, ex. loose, f.o.b. N. Y.....lb.	.08%	—
Teased Oil, crude.....lb.	.29	Nom.

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	American Pulverized Per Cent	Italian Select Per Cent
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide86	1.57
Titanium Oxide06	.10
Calcium Oxide80	1.10
Magnesium Oxide36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulphuric Anhydride03	.05
Loss on ignition	5.20	4.04

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Bitter, F.F.P.A.....lb.	5.25	5.50
Sweet, cans.....lb.	1.85	1.95
Anise, cans, U.S.P.....lb.	3.60	3.70
Bay, 55-66% phenols, cans.....lb.	1.60	2.10
Bergamot, coppers.....lb.	32.00	Nom.
Artificial.....lb.	2.25	6.50
Birch Tar, rect., cans.....lb.	—	—
Crude, cans.....lb.	—	—
Bois de Rose, Brazilian.....lb.	4.75	5.00
Cayenne.....lb.	—	—
Cade (juniper tar), drums.....lb.	1.50	Nom.
Cajeput, tech., drums.....lb.	—	2.10
Calamus, cans.....lb.	—	—
Camphor, Sassy, drums.....lb.	—	—
White, drums.....lb.	—	—
Cananga, native, cans.....lb.	17.00	17.50
Rectified, cans.....lb.	18.25	20.00
Cassia, Redistilled, U.S.P.....lb.	10.50	12.00
Cedar Leaf, cans.....lb.	1.05	1.35
Cedar Wood, light, drums.....lb.	.75	1.00
Citronella, Java, drums.....lb.	—	—
Citronella, Ceylon, drums.....lb.	1.10	1.25
Clove, U.S.P., cans.....lb.	1.80	2.00
Eucalyptus, Austl., U.S.P., cans.....lb.	1.30	1.50
Fennel, sweet, cans.....lb.	3.60	—
Geranium, African, cans.....lb.	30.00	Nom.
Bourbon, cans.....lb.	24.00	—
Turkish (Palmarosa).....lb.	5.25	5.50
Hemlock, cans.....lb.	1.20	1.25
Lavender, 30-32% ester, cans.....lb.	9.00	9.25
Spike, Spanish, cans.....lb.	4.25	4.35
Lemon, Ital., U.S.P.....lb.	—	Nom.
Cal.....lb.	3.00	—
Lemongrass, native, cans.....lb.	1.75	2.00
Linaloe, Mex., cases.....lb.	4.25	—
Nutmeg, U.S.P., cans.....lb.	5.25	5.50
Orange, Sweet, W. Ind., cans.....lb.	6.00	6.25
Italian cop.....lb.	8.00	Nom.
Distilled.....lb.	1.00	—
California, expressed.....lb.	1.60	—
Origanum, cans, tech.....lb.	2.80	3.25
Patchouli.....lb.	8.00	8.50
Pennyroyal, dom.....lb.	—	—
Imported.....lb.	3.15	3.25
Peppermint, nat., cans.....lb.	5.50	5.75
Redis, U.S.P., cans.....lb.	6.00	6.25
Petitgrain, S. A., cans.....lb.	1.95	2.20
Pine Needle, Siberian.....lb.	3.00	3.25
Rosemary, Spanish, cans.....lb.	2.25	2.30
drums.....lb.	2.10	2.15
Sandalwood, dom., dist., U.S.P.....lb.	5.85	6.25
Sassafras, U.S.P.....lb.	1.85	2.00
Artificial, drums.....lb.	1.75	1.85
Spearmint, U.S.P.....lb.	—	3.40
Thyme, red, N. F.....lb.	3.25	3.50
White, N. F.....lb.	3.50	3.75
Vetiver, Java.....lb.	42.00	50.00
Ylang Ylang, Bourbon.....lb.	—	—

Aromatic Chemicals

Acetophenone, C. P.....lb.	\$1.55	\$1.60
Amyl Cinnamic Aldehyde.....lb.	—	—
Anethol.....lb.	2.25	2.40
Benzaldehyde, tech.....lb.	.45	.55
N. F. VI.....lb.	.85	2.75
Benzyl, Acetate.....lb.	.59	Nom.
Alcohol.....lb.	.63	.75
Citral.....lb.	4.75	5.00
Citronellal.....lb.	2.75	3.25
Citronellol.....lb.	7.00	7.25
Citronellyl Acetate.....lb.	—	—
Coumarin.....lb.	2.75	3.25
Diphenyl oxide.....lb.	.43	.50
Eucalyptol, U.S.P.....lb.	3.25	3.40
Eugenol, U.S.P.....lb.	2.75	2.80
Geraniol, Soap.....lb.	2.50	3.00
Other grades.....lb.	3.50	4.00
Geranyl Acetate.....lb.	—	—
Heliotropin.....lb.	5.25	Nom.
Hydroxycitronellal.....lb.	7.25	8.75
Indol, C. P.....lb.	28.00	30.00
Ionone.....lb.	2.75	3.95
Isoborneol.....lb.	.81	.90
Iso-bornyl acetate.....lb.	.80	.95
Iso-Eugenol.....lb.	—	—
Linolool.....lb.	6.75	7.00
Linalyl Acetate.....lb.	5.50	7.25
Menthol, natural.....lb.	—	—
Synthetic, U.S.P.....lb.	13.00	19.00
Methyl Acetophenone.....lb.	—	—
Anthranilate.....lb.	2.20	2.35
Paracresol.....lb.	—	—
Salicylate, U.S.P.....lb.	.35	.40
Musk Ambrette.....lb.	4.00	4.45
Ketone.....lb.	4.15	4.60
Xylol.....lb.	1.40	1.80
Phenylacetaldehyde.....lb.	5.00	6.00
Phenylacetic Acid.....lb.	1.85	1.90
Phenylethyl Alcohol.....lb.	2.10	2.50
Rhodinol.....lb.	—	—
Safrol.....lb.	2.25	2.45
Terpineol, C.P., dra.....lb.	.40	—
Cans.....lb.	.43	—
Terpinyl Acetate, 25 lb. cans.....lb.	.87	—
Thymol, U.S.P.....lb.	3.00	Nom.
Vanillin, U.S.P.....lb.	2.35	2.75
Yara Yara.....lb.	1.80	1.85

Insecticide Materials

Insect Powder, bbls.....lb.	.29	.30
Pyrethrum Extract		
20 to 1.....gal.	5.90	6.00
30 to 1.....gal.	8.85	9.00
Derris, powder—4%.....lb.	.31	—
Derris, powder—5%.....lb.	.35	—
Cube, powder—4%.....lb.	.31	—
Cube, powder—5%.....lb.	.35	—
Squill, red, dried.....lb.	.85	1.00

Waxes

Bees, white.....lb.	.57	.63
African, bgs.....lb.	.3750	—
Refined, yel.....lb.	.5250	.6050
Candelilla, bgs. (crude).....lb.	.38	—
Carnauba, No. 1, yellow.....lb.	.8325	.8925
No. 2, N. C.....lb.	.7575	.8175
No. 3, Chalky.....lb.	.7125	.7725
Ceresin, yellow.....lb.	.13½	.18
Montan Wax, bags.....lb.	.45	.46
Paraffin, ref., 125-130.....lb.	.0520	.0560



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PRODUCTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

D-12 Discusses Detergents

DEVELOPMENTS in the field of synthetic detergents were the subject of particular attention at the annual meeting of Committee D-12 of the American Society for Testing Materials held June 7 and 8 at the Hotel New Yorker, New York City. Dr. C. J. Sunde of the conservation division of WPB spoke on "The History of Synthetic Detergents," reviewing the progress in this field since the first introduction of the "Gardinolins" about 1930. He commented particularly on the increasing demands that have been made on synthetic materials as a result of our loss of normal sources of soap making oils through military reverses in the Far East. So great have army and navy demands for synthetic detergents become, said the speaker, that supplies for any but the most essential civilian requirements seem now to be out of the question for the duration of the war. Great possibilities in the synthetics were predicted for the post-war period. Dr. Sunde's paper appears elsewhere in this issue.

A second speaker was J. C. Harris of Monsanto Chemical Co. whose paper entitled "Studies on Synthetic Detergents" was illustrated by lantern slides giving the results obtained in a series of laboratory tests on the detergent efficiency of several products in their "Santomerse" line. Mr. Harris reviewed the increasing demands of the military services for

synthetic detergents, including their use in the production of washing materials for use in mobile laundry units, use in production of Navy salt water soap (51D7), the new all-purpose toilet cake, preparations for use in army power laundries, and a new specification for a product for use in cleaning painted surfaces (51C20).

The studies on which Mr. Harris reported were undertaken in the Monsanto laboratories and were designed to test the detergent efficiency of various members of the "Santomerse" line (Nos. 1, 2, 3, 55, etc.) in both hard water and sea water. They were tested by themselves and also in combination with soap and various alkaline builders such as tri-sodium phosphate, tetra sodium pyrophosphate, soda ash, sodium carbonate, etc. It was shown that alkaline builders increased the detergency of "Santomerse" to the level of soap — "Santomerse" combinations in sea water and that builder — "Santomerse" combinations yielded improved detergency over "Santomerse" alone in extremely hard water.

Also of particular interest at the meeting was the distribution by Dr. J. E. Simpson of the Military Planning Division of the Office of the Quartermaster General of a number of copies of the new army specification covering an all-purpose soap. The new specification covers two types of soap for use by the military per-

sonnel throughout the world under varying conditions of water hardness and for a wide variety of uses. The new soap was developed with the assistance of a number of soap manufacturers, and samples are now being subjected to actual use as well as laboratory tests. The specification in its present form is understood to be purely on a tentative basis, and comments and suggestions for revision are being sought by the Quartermaster's office. Full text of the specification appears elsewhere in this issue.

Section chairmen of the various sub-committees reported to the group on their work since the last joint meeting. M. L. Sheely of Armour & Co. reported that progress had been made by his committee in the determination of free alkali and carbonate in liquid and paste soaps, but that more work would be necessary before a method could be reported.

I. Katz of Manhattan Soap Co. reported that his section had discussed changing the moisture specifications in D-496 and D-498 but had finally decided to leave them as formerly written. They did agree to put through emergency specifications allowing 10 per cent rosin in both these soaps and reducing the titer requirements to about 36 degrees. This action was approved by the meeting.

C. C. Zeigler of Swift & Co. reported that his section advised changes in the specification for TSP be-

cause the present specifications are too tight. They have reduced the total $\text{Na}_3\text{PO}_4 \cdot 12\text{H}_2\text{O}$ from 98 to 97 per cent and the P_2O_5 from 18.3 to 18.1 per cent. Under basis of purchase the denominator should be changed from 98 to 97. The general group approved the changes, with the revised specification to remain tentative for another year.

G. D. Marrocco of Carmen & Co. reported for the section on dry cleaning. Difficulties have been encountered in developing methods of test which can be counted on to give reproducible results, he said. A particular stumbling block has been the lack of suitable test pieces. Committee members are now being supplied with data which the N.A.I.C. has collected bearing on soiled test pieces, and following study of this data suggestions will be gathered on preparation of a standard test piece.

Dr. C. A. Marlies of City College, New York, reported that his sub-committee had again revised its list of definitions, and the revised list was adopted by the group as follows:

AMERICAN SOCIETY FOR TESTING MATERIALS

Committee D-12 on Soaps and Other Detergents

Tentative Definitions of Terms Relating to Soaps and Other Detergents

A.S.T.M. Designation: D 459-43T
Issued, 1937; Revised, 1938, 1939, 1940,
1941, 1942, 1943

Soap: The product formed by the saponification or neutralization of fats, oils, waxes, rosins, or their acids with organic or inorganic bases.

Note: Various descriptive adjectives are applied to the name soap to indicate certain characteristics as follows:

- (a) Method of manufacture, e.g. boiled soap, cold-process soap.
- (b) Physical form, e.g. bar soap, chip soap, liquid soap, powdered soap.
- (c) A special physical property, e.g. floating soap, low titer soap, milled soap, soft soap.
- (e) A particular application, e.g. automobile soap, dry cleaning soap, salt water soap.

Alkaline Detergent: A water-soluble alkali having detergent properties, but containing no soap.

Anhydrous Soap: Real soap, free from water and all other concomitants.

Blended—Soap, e.g. Blended Palm Oil Soap: A soap in which at least 51 per cent but not all of the fatty acid stock is from the source named, e.g. palm oil.

Builder: A material added to soap or synthetic detergent to improve its

effectiveness under the conditions of use.

Built Soap: A mixture of soap and one or more builders containing not less than 50 per cent of anhydrous soap.

Cleaning: A process of removing undesirable matter.

Detergency: Effectiveness of cleaning.

Detergent: A composition which cleans.

Dry Cleaning: A process of cleaning in liquid medium, which is substantially nonaqueous.

Dry Cleaning Soap: (Dry Cleaning Aid). A composition added to a dry cleaning solvent to increase cleaning effectiveness.

Filler: A material added to a soap or other detergent which does not improve its attractiveness or its effectiveness under the conditions of use.

Scouring: A wet process of cleaning by chemical or mechanical means or both.

Soap Powder: A mixture in powdered form of soap and one or more builders, containing not more than 50 per cent of anhydrous soap.

Soap Effect on Skin

In a general study of skin and the effect on it of soap and other substances, it has been found that sweat is bactericidal and fungicidal. Furthermore, since the normal skin swarms with various organisms including staphylococci, diphtheroids, and monilia without becoming diseased, it is logical to assume that the skin surface must possess an antibacterial activity of some sort which reduces the pathogenic activity of the organisms without destroying them. The acid mantle of the skin may be important in preserving its protective factors. The normal pH of exposed skin may range from 4.2 to 5.6, with an average of 5.3-5.6.

Skins which are incapable of neutralizing alkaline solutions with which they come in contact are more easily sensitized to external allergens. Alkalinity is an important factor in the production of eczema by soap. Acids can also irritate the skin, perhaps through the hydration and swelling of proteins.

In addition to the possible influence of pH on the defensive processes of the skin, the respiration of the skin has been termed a more accurate measure of its vitality than any other of its functions and it has been found that deviation of its pH from normal

Soil: Undesirable matter to be removed by cleaning.

Soil-Redeposition: Deposition of removed soil onto a fabric, during a cleaning process.

Straight—Soap, e.g. Straight Palm Oil Soap: A soap in which the fatty acid stock is solely from the source named, e.g. palm oil.

Synthetic Detergent: A detergent, comprising an organic composition obtained by chemical synthesis, and free from added soap.

Washing: A process of cleaning in aqueous medium.

Water-Break: Failure of water to form a continuous film on metallic, vitreous or similar surfaces on withdrawing from clean water.

Wet Cleaning (Dry Cleaning Industry): Special cleaning processes with aqueous media, employed in the dry cleaning industry.

Wetting Agent: A composition which increases the spreading on a surface or the penetration into a material of a liquid medium.

Whiteness - Retention: Comparative whiteness of original and cleaned fabric.

is reflected in a lowered tissue respiration. Buffered materials are suggested as most suitable for use on alkali-sensitive skins. Ralph G. Harry, *Brit. J. Dermatology*.

Evaluating New Detergents

Wool and cotton fabrics soiled with a standardized mixture were used for evaluating synthetic detergents by members of the A.S.T.M., Section E, Subcommittee II. The test fabrics were washed in launderometers and graded on photometers. Some laboratories reported difficulty in obtaining check results even in their own individual tests, this in spite of having personnel trained in running launderometer detergency work. The method is not considered sufficiently accurate for referee work on synthetic detergents. The procedure should be useful for control work within an organization. All variable factors should be controlled as rigidly as possible. J. B. Crowe. *Am. Dyestuff Reporter* 32, 237-41 (1943).

Mothproofing Agent

A mothproofing composition contains as an essential active ingredient trichlorobenzyl ether. A. H. Goddin and N. E. Searle, to Canadian Industries Ltd. Canadian Patent No. 412,891.

Protective Creams

ATTENTION has been focused on the prevention of dermatitis, especially since the outbreak of war. Workers in munition factories are said to have lost more time from the cause than for any other reason with the exception of the common cold. The assurance that can be offered today of quick cleansing and reliable protection of the hands against industrial dermatitis is an inducement to many people to take up a type of work which they would not otherwise regard with any great favor. Protection against irritation and quick cleansing are not the only considerations; the protective creams in production today are also designed to keep the skin in good condition, no matter what work the employees are called upon to perform.

In general, two groups of creams are needed, one series to offer protection from grease, paint, varnish, oils, tar and creosote. For example, one such cream is specially designed for those working with tar and creosote. No matter how thickly coated the hands may become, every trace can be removed in a few moments by immersing the hands in water of a correct temperature, running water being specially recommended for the purpose. A second series of protective creams is of a rather different character, being suitable for irritants which are soluble in water, to protect those whose hands are continually submerged in photographic chemicals, plating solutions, or acid or alkaline solutions.

Four points must be kept in mind in perfecting barrier creams, to give (1) a protective film, (2) a loading factor, (3) a reconditioning element, and (4) bacteriostatic action. When uniformly applied to the skin and allowed to dry, a process which takes about two minutes, the cream leaves an invisible film. The loading factor is in principle a non-conductor and has the tendency to reduce the radial heat of the skin, thus producing a sense of cooling. The reconditioning

agent which guards against a moderate amount of surface damage to the skin during work, is assured by a saponified compound of a cerostearate character and a skin softener in the form of a cholesterol absorption base. The bacteriostatic action is insured by the presence of an antiseptic or germicide so that the creams meet the inhibition zone test by the Agar Cup method against *Staphylococcus aureus* and *B. Typhosus*.

Development of anything like a complete series of creams requires a study of many skin irritants to determine their own suitable types of barriers. That such creams will be used on a much wider scale in years to come is considered inevitable, since they can be made extremely effective as well as economical in use. *Soap, Perfumery & Cosmetics* 16, 270-1 (1943).

Sap. Number Method

The saponification number of fats and oils may be determined by the "double-indicator" method. For almost all oils this method gives excellent checks with the standard method and requires less time, reagents and apparatus. The end-points are obtained by the use of phenolphthalein and bromophenol blue. *Am. Rieman III, Ind. Eng. Chem., Anal. Ed.* 15, 325-6 (1943).

Colloidal Electrolytes

Conductivity alone is shown to be an untrustworthy guide as to whether or not a solution contains a colloidal electrolyte such as soap, sulfonates and sulfates. The most conclusive evidence comes from direct comparison of thermodynamic with electric data. Freezing-point studies are reported for a number of colloidal electrolytes. Different groups exhibit various types of behavior. All have in common the replacement of ions by colloidal particles as the concentration increases. Data are reported for freezing-point lowerings of dilute aqueous

solutions of potassium oleate containing four equivalents per cent excess of potassium hydroxide. Measurements are also reported for sodium oleate. It is established that solubilized molecules of normally insoluble substances are taken up in colloidal form in or on existing soap micelles. Results are given for sodium decyl sulfonate and sodium decyl sulfate. The critical concentration for the completion of the formation of micelles is often 10 or more times greater than the critical concentration for the initiation of micelle formation. S. A. Johnston and J. W. McBain. *Proc. Roy. Soc. (London)* A181, 119-33.

Lather Measurement

The chief methods, both static and dynamic, currently used to measure the lather or foam of liquids, have been studied to ascertain the factors involved. Each method measures a somewhat different complex of properties, such as drainage, apart from mere collapse or coalescence of bubbles. For a film of a given stability the average life of a bubble is greater the smaller the bubble, increasing at least in inverse proportion to the square of the diameter of the bubble. Methods are suggested for examining the stability of lather with a minimum of complications through other factors. Sydney Ross. *Ind. Eng. Chem., Anal. Ed.* 15, 329-34 (1943).

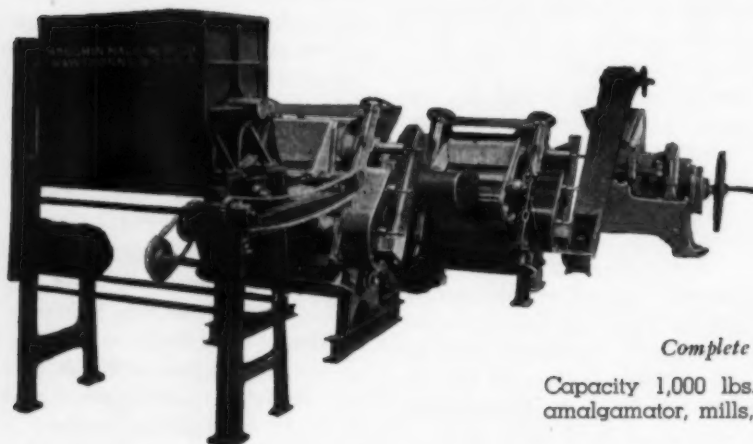
Glycerine Recovery

After fats have been split at a high temperature and pressure, the resultant mixture is passed into a vacuum at elevated temperature to separate glycerine and fatty acids as vapors. The vapors are withdrawn and condensed. Benjamin Thurman. Canadian Patent No. 412,683.

New Antifoaming Agent

Trimethyl cyclohexanol, an alcohol recently developed by the Carbide & Carbon Chemicals Corporation, is practically insoluble in water but soluble in most organic solvents, hydrocarbons, and oils. The compound should prove useful as an antifoaming agent in the manufacture of textile soaps.

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pH in the Soap Plant

It is often profitable to determine pH values in technical investigations and also in routine practice. As far as the soap trade is concerned, not a great deal appears to have been done, unless for the adjustment of liquors in the spent lye treatment, and for controlling the mixture of soap and alkali in soap mixtures to give the best results in the laundry. In the soap plant, apart from the laboratory, there are one or two applications of indicators which are of importance.

In saponifying fats, when the operation is nearing completion, there is no ready means of telling directly that the last traces of fat have disappeared, but it is possible to determine roughly whether enough free alkali remains in the kettle to be assured that after a few minutes' final boiling the fat will all have been saponified. It cannot be said that any definite pH value is necessary, as one has to take into account the velocity of the reaction on the one hand, and waste of material due to excess of caustic on the other.

Separation of Fatty Acids

A method has been described for separating mixtures of higher fatty acids by Tswett adsorption analysis. Separation into zones was observed on a column of heavy magnesium oxide impregnated with a suitable dye serving as indicator. The fatty acids were recovered by dissolving the magnesium oxide in particular sections of the column in acid and extracting with ether. By this procedure it was possible to demonstrate a separation of an unsaturated fatty acid from a saturated fatty acid of the same number of carbon atoms and of two saturated fatty acids differing in chain length by four carbon atoms. M. M. Graff and E. L. Skau. *Ind. Eng. Chem., Anal. Ed.* 15, 340-1 (1943).

Interfacial Tension

The stability of emulsions of nonpolar organic liquids such as heptane in aqueous sodium laurate solution depends on the low interfacial tension caused by the joint existence of un-

The time-tried method of tasting the soap still seems to survive in places; perception of taste by the tongue is not necessarily less acute than perception of color by the eye, but many people cannot taste the small amounts of alkali which are sufficient to ensure perfect saponification in the presence of soap and salt in much greater quantities. Hardly anyone can fail to discriminate between depths of tint in an indicator which changes from colorless to colored, though some fail to distinguish between different hues of indicators which change from one color to another. Thymolphthalein, which has served in practical use for many years, seems the best indicator for the purpose. When the lye from a sample of the soap in the kettle produces no color, more caustic is definitely wanted. The color at the end of the operation should be medium blue, persisting on a further test after a few minutes longer boiling. Litmus and phenolphthalein both react alkaline at a pH value too low for the completion of the reaction. *Soap, Perfumery & Cosmetics* 16, 286 (1943).

hydrolyzed soap in the aqueous phase and fatty acid from hydrolysis in the organic liquid. J. K. Davis and F. E. Bartell. *J. Phys. Chem.* 47, 40-50 (1943).

Emulsion Formation

Phase diagrams are worked out for the systems hydrocarbon oil-soap of sulfonated castor oil-sodium oleate or soap of naphthenic acid. The line separating the region of soluble oils from that of emulsions is located. The state of dispersion and stability of emulsions are measured as a function of the composition of the emulsion-forming oil and the soaps present. The phase inversion of soap in oil on the addition of water or alcohol is discussed. The amount of water required depends on the degree of saponification of the acids in the system. The discontinuous inversion can be followed by measuring the electric conductivity of the mixture. K. Pospelova and P. Rehbindler. *Acta Physicochim. U.R.S.S.* 16, 71-87 (in English).

Fatty Acid Saponification

Saponification of fatty acids with soda ash is naturally quite different from saponification of fats with caustic. Considerable skill and experience are called for in order to overcome the difficulties associated with the considerable evolution of carbon dioxide.

A solution of the necessary amount of soda ash (85 per cent of the total required for saponification) in twice its weight of water, is prepared. Half this charge is run into the soap kettle, and half the fatty-acid charge is then run in slowly and the mass kept in active agitation with open steam, if possible with air also. Sufficient salt is added to maintain a strength of 2 per cent in the fat charge, although with coconut oil this should be increased to 5 per cent. The remainder of the fatty acids is then pumped in and the rest of the carbonate added by spraying it over the surface. Caustic in sufficient amount for the remainder of the saponification is added and the soap brought up to good strength and finished with the gradual addition of water. Fatty acids are saponified the same way when using caustic soda.

The greater shortness of fatty-acid soap can be compensated, especially with toilet soap, by adding 1-3 per cent of glycol or carbitol, or by superfatting with lanolin products or with petroleum jelly. Soybean-oil fatty acids give an excellent soft soap. Almost colorless distilled fatty acids from olive oil and linseed oil find special application in the manufacture of liquid soaps for shampoos. Castor-oil fatty acids have been used in a similar connection. Myristic-acid soap is especially high in wetting power and may find special detergent uses. C. V. Carden. *Soap, Perfumery & Cosmetics* 16, 272-5, 281 (1943).

Composition for Parasites

Rotenone containing drugs or extracts, is heated with a compound of the group consisting of alkyl and aralkyl naphthalene sulfonic acids and their salts, in the presence of an organic solvent. M. Bockmuhl and Gunther Gorr. Canadian Patent No. 411,563.

REMEMBER?

10 YEARS AGO

NIRA

THE SOAP INDUSTRY
BEGAN WORK ON A CODE
UNDER THE NEW NATIONAL
INDUSTRIAL RECOVERY ACT.
ROSCOE C. EDLUND DESCRIBED
NRA'S EFFECT ON SOAPERS

NEW GROUP
PERFUMERY
& COSMETIC
INSTITUTE
WAS
ORGANIZED

PACIFIC COAST POTASH
SOAP MFRS. & DISTRIBUTORS
ASSN. WAS FORMED TO
OPERATE UNDER NRA.
IT INCLUDED 12 STATES

RUM RUNNER COMES CLEAN



A CARGO OF SOAP WAS CAPTURED
ON A RUM-RUNNER BETWEEN
DETROIT AND WINDSOR, ONTARIO



"AVOCADO TISSUE" SOAP,
MADE FROM OIL OF
ALLIGATOR PEARS, WAS
MARKETED ON WEST
COAST AT 10¢
A CAKE



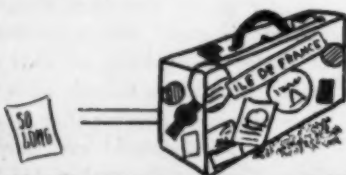
LOS ANGELES SOAP CO.
FILED SUIT AGAINST A
RETAILER FOR CUTTING
PRICES, IN A TEST CASE OF
THE CALIF. FAIR TRADE ACT



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U.S.I. CHEMICAL NEWS

July



A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries



1943

Vitamin B₆ Synthesis Requires the Use of Ethyl Acetone-Oxalate

Production of Pyridoxin
Aided by U.S.I. Compound

A new synthesis of Vitamin B₆ (pyridoxin) that has just been published requires the use of ethyl acetone-oxalate (ethyl acetyl-pyruvate — $\text{CH}_3\text{COCH}_2\text{COCOOC}_2\text{H}_5$), a compound which offers many interesting possibilities for experimental work.

The ammonium derivative is first prepared according to the method of Mumm and Bergell [*Berichte* 45, 3041 (1912)] and this is then combined with cyanoacetamide according to the method of Bardhan (Journal of the Chemical Society, page 2227 (1929)) to give ethyl 2-methyl-5-cyano-6-hydroxy-pyridine-4-carboxylate. Ammonia in methanol gives the amide which is reacted with phosphorus oxychloride to give 2-methyl-4, 5-dicyano-6-hydroxy-pyridine. By means of nitric acid, the 3-nitro derivative is obtained which is reacted with phosphorus pentachloride to give 2-methyl-3-nitro-4, 5-dicyano-6-chloro-pyridine. Hydrogen reduction converts the 3-nitro compound to the 3-amino from which is obtained, by reacting hydrochloric acid in methanol, 2-methyl-3-amino-4,5-diaminomethyl-pyridine-trihydrochloride. Sodium nitrite with hydrochloric acid gives the hydrochloride of Vitamin B₆.

Sample quantities of ethyl sodium acetone-oxalate may be obtained by writing U.S.I.

Emulsifying, Foaming Agents Produced from Soybean Oil

A new method for producing emulsifying and foaming agents, together with phosphatides, from soybean oil was described in a recent patent.

The inventor suggests that compounds containing phosphorous be removed from the soybean oil by passage through an absorbent such as silica gel. The absorbent may then be (a) extracted with acetone and evaporated, the sterols removed, and the residual oil again passed through the absorbent, or (b) the absorbent extracted with acetone and then with diethyl ether, giving a good grade of phosphatide. The residue is next extracted with 99-99.5% ethanol, giving a sterol glucoside, and the remainder extracted with 20-70% ethanol to produce a foaming agent soluble in dilute aqueous alkali and precipitated by aqueous hydrochloric acid or aqueous sulfuric acid. Phosphatide-rich material (an oil-free viscous liquid soluble in diethyl ether, ethanol and acetone and insoluble in water-ethanol) is obtained from this last step by evaporating the water-ethanol extract to quarter bulk and skimming off the floating gum.

Ethyl Chloride Recovery

According to a new method recently patented, ethyl chloride can be recovered from the eutectic mixture of ethyl chloride-butane obtained in the manufacture of tetraethyl lead upon treatment under pressure at -10° to 30° with an aqueous solution of an alcohol such as 70% ethanol.

Ethyl Formate Used in Synthesis Of Sulfadiazine and Thiamin

Highly Reactive Ester Produced by U.S.I. Employed
In Condensation Step of Two War-Important Products

Ethyl formate, a very reactive ester which heretofore has been used chiefly in the production of fumigants, is now being employed in substantial quantities for the synthesis of thiamin (Vitamin B₁) and sulfadiazine, one of the newer sulfa drugs. Both of these products, now filling vital war needs, will undoubtedly play an increasingly important part in the advancement of peacetime medicine.

Reducing Compounds Detected Rapidly with Spot Tests

A test for the rapid detection of reducing compounds which can be carried out with small amounts of material in the form of spot reactions was described in a recent issue of "The Chemist Analyst."

The following procedure is recommended: place one drop of the solution, or several granules of the solid substance, in one of the cavities of a spot plate and add one drop of an approximately 5% solution of phosphomolybdic acid in water or ethanol. In the case of difficult soluble compounds, a drop of dilute sulfuric acid can be added if necessary. In the presence of reducing compounds there is formed, in proportion to their amount, a blue or green coloration. A blank test is required only when very small amounts of the reducing substance are present.

New Process Patented for Paper, Cloth Coating Material

EAST ORANGE, N. J. — A patent has been awarded to an inventor here for a method of preparing paper and cloth coating materials from cashew nut shell liquid said to produce resistant, infusible and insoluble films. A suggested use is for coating paper to be used as liners for the caps and covers of containers for food, cosmetics and paints.

A typical coating is prepared by heating together about three parts by weight of cashew nut shell liquid and one part of hexamethylene tetramine to about 250° F. After holding at that temperature for about thirty minutes, two parts of a fifty per cent solution of an organic solvent soluble urea-formaldehyde resin in equal parts of butanol and xylol, and four parts of a petroleum spirits are added.

The extensive use of thiamin in supplying certain body deficiencies is well known and its importance is becoming more apparent each day. It is, for example, an ingredient of the concentrated chocolate bars issued to soldiers as part of their emergency rations.

Sulfadiazine, while exhibiting the same bacteria-killing action of the other sulfa drugs, has been found to cause less reaction than some of the others. Tablets of sulfadiazine are included in soldiers' first aid packets.

Synthesis Is Similar

The synthesis of thiamin and sulfadiazine follows a similar pattern. In the synthesis of the pyrimidine part of thiamin, ethyl formate is condensed with ethyl beta-ethoxy propionate. This is a typical Claisen condensation with sodium which gives ethyl beta-ethoxy sodium formylpropionate. This product on condensation with acetamidine hydrochloride, yields 2-methyl-4-hydroxy-5-ethoxy-methyl-pyrimidine. The hydroxyl group in the 4 position is converted to the chloride by phosphorus oxychloride, and finally into the amino group by ammonia in alcohol. After replacement of the ethoxy group with bromine by action of hydrobromic acid, the pyrimidine part is condensed with the thiazole part to give thiamin.

The synthesis of sulfadiazine actually requires another U.S.I. product, ethyl acetate, as well as ethyl formate. The first step here again involves a Claisen condensation. The ethyl formate is condensed with ethyl acetate in the presence of sodium ethoxide to produce ethyl sodium formylacetate. The remainder of this synthesis consists of condensing the ethyl sodium formylacetate with guanidine to the hydroxypyrimidine, which is then treated with phosphorus oxychloride and hydrogen in order to substitute hydrogen for the hydroxyl group. In the last step, the pyrimidine is

(Continued on next page)



Photo by U. S. Army Signal Corps

Thiamin and sulfadiazine, which are being synthesized with U.S.I.'s ethyl formate, guard the health of soldiers at the front. Shows at left are emergency field rations for the Army, included among which is a concentrated chocolate bar (Ration D) containing thiamin. At right is a front line first aid station where sulfadiazine is administered to prevent infection.



Ethyl Formate Uses

(Continued from preceding page)

combined with sulfanilyl chloride to give 2-sulfanilamido-pyridine (sulfadiazine).

These uses of ethyl formate again show the diversified applications for such organic chemicals, and the typical reactions in which they are used. The impetus of war needs is resulting in many new synthetic chemicals, especially for medicinal purposes. As illustrated here, the Claisen condensation reaction is extremely important in many of these syntheses. U.S.I. has had years of experience with this reaction in the production of ethyl acetate and ethyl sodium oxalacetate. This company is undertaking the development of other chemicals for similar syntheses which will undoubtedly find a role in the manufacture of hormones, amino acids, vitamins, insecticides and new chemo-therapeutics. U.S.I.'s technical staff will collaborate with any organization whose products call for intermediates obtained by the Claisen type reaction.

Describe Method for Making Air-Drying Ink Vehicle

DOVER, Del. — A patent has been awarded to a company here for a non-oily air-drying vehicle to be used in the formulation of vitrifiable inks that is claimed to offer many advantages over oil vehicles.

The following mixture is recommended:

	Parts
Copaiba resin	32
Venice turpentine	16
Molasses	4
Dammar (crystal dammar varnish)	4
Dibutyl phthalate	1/32

The vehicle is prepared by mixing together and stirring slowly the copaiba resin, Venice turpentine and dibutyl phthalate. To this mixture is added the molasses and dammar. The powdered solids are then added and mixed to produce a finished ink or color.

New Formula Devised For Topical Anesthetic

The following formula has been suggested for a topical anesthetic:

Benzocaine	7.5
Oil of peppermint	6.0
Phenol crystals	3.5
Ethylene glycol, q. a.	50.0

The inventor suggests that the benzocaine, oil of peppermint and phenol crystals be mixed in a flask and heated until the benzocaine dissolves, and sufficient ethylene glycol be added to make 50 cc.

Butanol, Glycerine Mixture Declared Best Soap Solvent

A mixture of 56% of glycerine and 44% of butanol was found to be the most effective solvent for soap, following recent tests in which the solubility of sodium stearate was determined at 25° C. in various mixtures of ethylene glycol with different monohydric alcohols; of butanol with different glycols and glycerine; of chloroform with glycols, and of acetone with ethylene glycol.

It was discovered that for the same glycol, the percentage of different alcohols required to produce maximum solubility is between 40 and 45, except for methanol which was 60%. For a single solvent or mixture to be a good soap solvent, the experimenters say it must have two adjacent hydroxy groups and a hydrocarbon-dissolving portion.

Purification Advised for Use Of Fibrous Sodium Pectate

Recently developed as a substitute for agar in bacteriological gels, fibrous sodium pectate is claimed to be more satisfactory for such use when purified. To achieve purification, it is suggested that the material be suspended in 60% ethanol and pH adjusted to 7.5. The pectate is then filtered and dried in a vacuum at 60° C.

Transparent Sheet Materials Made With Aid of Acetone

A new method has been patented for the manufacture of transparent or translucent sheet materials. An open-work fabric—wire netting, woven-wire fabric, knitted or leno fabric of organic derivatives of cellulose—is wetted with a mobile, volatile liquid such as acetone. It is then treated with a dope compatible with acetone and containing a lacquer base. The solvent is removed by evaporation and the product calendered.

Chloroformic Esters Used To Treat Cellulosic Fabrics

A process for permanently imparting water repellency to cellulosic fabrics was recently patented which comprises reacting a chloroformic ester of ten carbon atoms or more with hexamethylenetetramine directly on the fabric in the presence of heat and an inert solvent. A number of chloroformic esters have been produced by U.S.I.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

An organic alkyl peroxide is offered for use as a catalytic agent in one or two phase polymerizations, as an oxidation agent for laboratory use, as a drying accelerator, and as a bleaching agent. Described as comparatively stable, it is standardized at concentration of 50 to 60% with more than 10% available oxygen. (No. 710)

U S I

A grinding, mixing or compounding mill has been developed for relatively small or moderate size batches of wet or dry material. (No. 711)

U S I

A photoelectric gloss meter has been developed for measuring the reflecting ability of a finished surface in terms of per cent of an arbitrary standard such as a mirror. It consists of a galvanometer with connection switches and adjusting controls and a photoelectric search unit. (No. 712)

U S I

Deodorant oils are offered which the maker says can be readily mixed with formaldehyde and water in proved proportions. It is claimed that deodorants so made will kill all tobacco, cooking, theatre and tavern odors. (No. 713)

U S I

A line of paints for machinery and building interiors is offered that can be applied by brush or spray on wood, brick, plaster and metal surfaces. Included are a mill white flat, a mill white gloss enamel, commercial interior gloss and semi-gloss enamel, commercial interior flat, dado enamel, machine enamel, a primer, an undercoat and a thinner. (No. 714)

U S I

Direct current resistance decades have been developed with ranges of 0.9 to 999,999 ohms total and accuracy of plus or minus 1% and 0.1% respectively. Switches are described as having self-cleaning, multi-bladed phosphor bronze spring wipers. (No. 715)

U S I

Tempered glass tubing is offered which is said to be suitable for handling all types of corrosive fluids except hydrofluoric acid and strong, hot caustic soda solution. (No. 716)

U S I

A strainer for handling highly viscous liquids or liquids that are solid at room temperatures has been announced. Maximum operating pressure is 50 psi at temperature of 600°F. The bottom and sides are completely enclosed in a steam jacket suitable for 125 pounds pressure. (No. 717)

U S I

Two water and stain-repellent materials are available to treat clothes by dipping after washing or dry cleaning. One is an emulsion that is diluted with water, the other a solvent type. (No. 718)

U S I

Skin-protecting creams are offered which are described as non-clogging, non-toxic, and non-irritating. One is recommended for protection against skin absorption of paints, lacquers, tars, resins, glues, graphite and other materials. The second is insoluble in cutting oils or soluble oil emulsions. It is said to afford protection against strong or dilute acids and alkalis, metallic salts, dyes and coal tar distillates. (No. 719)

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ANOLS

Ansol M
Ansol PR

ACETIC ESTERS

Amyl Acetate
Butyl Acetate
Ethyl Acetate

OXALIC ESTERS

Butyl Oxalate
Ethyl Oxalate

PHTHALIC ESTERS

Amyl Phthalate
Butyl Phthalate
Ethyl Phthalate

OTHER ESTERS

Diatol
Ethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES

Acetoacetanilide
Acetoacet-ortho-aniside
Acetoacet-ortho-chloranilide
Acetoacet-ortho-taluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate
Registered Trade Mark

ETHERS

Ethyl Ether
Ethyl Ether Absolute—A.C.S.

OTHER PRODUCTS

Acetone
Collodions
Curbay B-G
Curbay Binders
Curbay X (Powder)
Ethylene
Ethylene Glycol
Indalone
Nitracellulose Solutions
Potash, Agricultural
Urethan
Vatone



PRODUCTS

Shaving Cream

A shaving cream is composed of the usual ingredients such as tragacanth or glycerine, and salves containing cultures of fermentation fungi. To these salves are added substances which prepare the hair for shaving such as calcium carbonate, magnesium carbonate or lime and a swelling agent such as cellulose methyl ether. H. Kalies, to Merz & Co., Chem. Fabrik. German Patent No. 706,711.

Reducing Bleach

An alkali boil using 0.5 per cent of soda ash based on the weight of the load, at 185-190° F. will remove many stains not removed in the usual laundry process and reduce the amount of bleach required. Proper rinsing and souring and the use of less blueing will also reduce the need for bleach. Ralph B. Smith. *Starchbroom Laundry J.* 49, No. 8, 12, 14, 74.

Soap from Hydrocarbons

Soap is made from fatty acids obtained by oxidizing paraffin hydrocarbons. The fatty acids are saponified and the soap solution treated with a salt solution of pH 5.5-7.5. M. Luther and W. Leithe, to I. G. Farbenind A.-G. German Patent No. 708,125; through *Chem. Abs.*

Amino Ester Detergents

Higher fatty-acid esters of *para*-toluenesulfonic acid salts, with amino alcohols containing at least one primary or secondary amino radical, such as monoethanolamine, are suitable for use as detergents or dispersing agents. D. W. Jayne, Jr., and H. M. Day, to American Cyanamid Co. U. S. Patent No. 2,305,083.

Petroleum Fatty Acids

Fatty-acid mixtures that may be used for soaps and fats are produced by oxidizing high-molecular hydrocarbons boiling at 300-480° C., with

molecular oxygen. The components with a boiling point over 420° are cracked by known means to compounds boiling at 270-380°. Thirty per cent of these compounds are mixed with 70 per cent of compounds boiling up to 420°, and the mixture is oxidized. Markische Seifen-Ind. German Patent No. 706,791; through *Chem. Abs.*

Soap for Mosquito Control

In concentrations of 0.1-0.25 per cent, soap reduces the surface tension of still water so that mosquito pupae are unable to maintain their normal floating position, and suffocate. For the same reason, the egg-laying mosquito cannot be supported so that egg laying is interfered with. The egg boat will not float in water containing soap. Higher concentrations of soap—0.5-1 per cent—kill the mosquitoes directly. *Am. Perfumer* 45, No. 5, 47 (1943).

Glycerine Bleaching

Dark glycerine was bleached with 2 per cent of bleaching earth and 2 per cent of E-carbon at 85° C. for 30 minutes. Additional bleaching could be obtained with various E-carbons. E. Erdheim. *Allgem Oelund Fett-Ztg.* 38, 275-5; through *Chem. Abs.*

Removing Metals from Oils

Oils containing various metal compounds such as those of iron and nickel as impurities, can be refined with organic acids such as lactic, tartaric, citric, etc. The oils are warmed and mixed with solutions of the acids, and blown with air, when complex salts of the metals precipitate. The treatment also improves the color of the oils. L. Spirk. *Chem. Listy* 35, 275-6; through *Chem. Abs.*

Hand Protective Agent

In Australia, solubilized ti-tree oil is being used regularly with good

results by the Defense Department as a medical, surgical and first-aid antiseptic. This oil has been subjected to exhaustive tests as a germicidal factor in cutting oil for the prevention of dermatitis in a concentration of 0.25 per cent, with results establishing its efficacy. One producer of cutting oils has used ti-tree oil in a concentration of 0.5 per cent, and claims it has solved the problem of preventing dermatitis of this type. *Drug & Cosmetic Ind.*, 52, 555 (1943).

Glycerine Substitute

Commercial 2, 3-butylene glycol is suggested as a glycerine substitute. The product has a melting point of 28°C. but remains liquid at room temperature if 10-20 per cent of water is added to it. Its aqueous solutions are somewhat less viscous than glycerine solutions of the same concentrations. It should not be used in preparations for internal use since it is somewhat toxic. *Drug & Cosmetic Ind.* 52, 553 (1943).

Soap Aids Fruit Growers

A significant proportion of most fruit crops is ordinarily lost by fruit falling down before ripening. By the application of certain chemicals to the branches of fruit-bearing trees, the farmer can prevent this and raise his yields. To prevent washing off of the active chemicals, called auxins, they are dissolved in the wax portion of a wax dispersion in water, the whole stabilized by means of common soap. This enables the plant to absorb the auxins gradually and evenly without interfering with respiration. *Am. Perfumer* 45, No. 5, 47 (1943).

Powdered Washing Aid

Inorganic alkali salts containing water of crystallization are heated to a temperature above their transition points. The melt is intimately mixed with oily organic soap substitutes and the mixture is solidified by spraying or by intense agitation. H. Tampke, F. Patat and K. Winnacker, to I. G. Farbenindustrie A.-G. German Patent No. 720,776.



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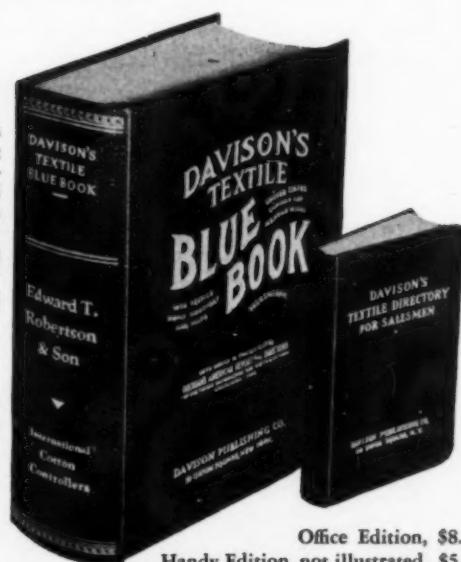
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No. 2,318,201, Mothproofing Composition, patented May 4, 1943 by Wallace Colman and Herbert L. J. Haller, Washington, D. C., assigns to Claude R. Wickard, as Secretary of Agriculture of the United States of America and to his successors in office. A moth-proofing agent comprising isonitrosoacetanilide.

No. 2,318,920, Agricultural Parasiticide, patented May 11, 1943 by Kenneth R. Brown, Tamaqua, Pa., assignor to Atlas Powder Company, Wilmington, Del. An insecticide containing as an active ingredient a water-dispersible composition comprising partial lauric acid ester of a compound selected from the class consisting of hexitans and hexides.

No. 2,320,236, Polishing Composition, patented May 25, 1943, by George F. Hogg, Chicago, Ill., assignor to Hercules Powder Company, Wilmington, Del. A polishing composition comprising an oil-in-water type emulsion comprising a disperse phase comprising water and an emulsifying agent and a dispersed phase consisting essentially of a polymerized rosin and a wax in amounts such that the ratio of wax to polymerized rosin lies within the range of from about 100 to 1 to about 1 to 1.

No. 2,320,280, Detergent and Sterilizing Composition, patented May 25, 1943 by Varton Mardiras Kalusdian, New York, N. Y., assignor to The Mathieson Alkali Works, Inc., New York, N. Y. A substantially dry stable mixture having improved de-

tergent and sterilizing properties comprising a stable calcium hypochlorite containing upwards of 50 per cent available chlorine and substantially free of calcium chloride, and a synthetic organic water soluble detergent salt which does not produce an insoluble precipitate in the presence of calcium ions.

No. 2,320,281, Process for Cleaning Rugs, patented May 25, 1943 by Varton Mardiras Kalusdian, New York, N. Y., assignor to The Mathieson Alkali Works, Inc., New York, N. Y. A process for cleaning rugs which comprises treating the rug with an aqueous solution formed by dissolving in water a stable calcium hypochlorite, sodium carbonate in excess of that necessary to react with all of the calcium present, sodium bicarbonate, and a synthetic organic water soluble detergent salt which does not produce an insoluble precipitate in the presence of calcium ions, and rinsing the thus treated rug.

Surface Tension Studies

The surface tension of solutions of the sodium soaps of oleic, linoleic, linolenic, ricinoleic, dibromoricinoleic, lauric, *alpha*-bromolauric, hydroxystearic, hydnocarpic, and chaulmoogra acids was measured. The reduction in surface tension in unsaturated soaps is greater, the more double bonds in the molecule of the acid. The reduction in surface tension of ricinoleic acid soap is greater at the higher concentrations and less at the lower concentrations than those of plain unsaturated acid soaps. Presence of a triple bond decreases the lowering of surface tension. Raymond Cavier. *Compt. rend.* 212, 1146-8.

Surface-active Agent

A surface-active agent which is a triethanolamine salt of an acid ester is prepared by reacting a substituted succinic acid anhydride with an alcohol. The substituent is an alkenyl group containing at least 10 carbon atoms. The reaction takes place without the elimination of water. A. J. vanPeski and W. Coltof, to Shell

Development Co. Canadian Patent No. 412,759.

Germicidal Soap

Germicidal soap is prepared by the incorporation of 2,2'-dihydroxy halogenated diphenyl methane in the soap. E. C. Kunz and Wm. S. Gump, to Burton T. Bush, Inc. Canadian Patent No. 412,227.

SYNTHETIC DETERGENTS

(From Page 31)

nut, babassu, palm kernel and other high lauric oils. This order limits the use of high lauric acid oils to processes in which glycerin is produced with certain oils exempted for food uses.

FDO-53—Places red oil, lard oil, and neat's-foot oil under complete allocation.

Also Lend-Lease requirements are increasing, and even linseed oil is being shipped for food purposes. During the month of April, approximately 36 million pounds of edible linseed oil went to Lend-Lease and related purposes. Shipping space for food has a priority on a par with planes and trucks.

Synthetic detergents are controlled through allocations of the raw material used in their manufacture. If the fats and oils situation continues to become more critical, the time may well arise when it will be necessary to allocate critical chemicals for the manufacture of synthetic detergents for the most essential civilian uses.

The statement made by our friend, Dr. W. H. Gardner, with reference to linseed oil and its possible use in food that, "You can't have your paint and eat it" applies equally well to soap. You can't eat your soap and have it too.

References

- ¹Lawrence Flett, Chemical and Engineering News, Vol. 20, 844 (1942).
- ²Charles E. Mullin, Soap, Vol. 13, No. 11, 30-33, 74; No. 12, 27-30, 73-74 (1937); Vol. 14, No. 1, 30-33, 74 (1938); No. 2, 32-35, 73-74; No. 3, 30-33; No. 4, 32-33, 73-74 (1938).
- ³Charles E. Mullin, Soap, Vol. 13, No. 12, 27-30, 73-74 (1937).
- ⁴Blue Book, Soap and Sanitary Chemicals, 1943, p. 145.
- ⁵Private Communication.
- ⁶Ruckman, Hughes and Clarke, Soap, Vol. 19, No. 1, 21-23 (1943).
- ⁷Private Communication.



In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog that is yours for the asking.

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WHEN the first issue of this publication appeared eighteen years ago it was edited exclusively for manufacturers and wholesale distributors of soaps and sanitary chemicals. Since then we have hewed to this line and have resisted opportunities to spread our editorial appeal into somewhat related lines of business to coax in stray advertising. *The natural result is that SOAP & SANITARY CHEMICALS is the only publication in this field.*

No other magazine has more than a smattering of circulation among manufacturers and distributors of soaps and sanitary products. Do not be misled into thinking you are covering this important industry just because other papers publish an occasional article dealing with soaps, insecticides, waxes, etc. Common sense will tell you that it takes a lot more than an occasional feature story to capture the interest of this group of 3,500 firms doing an annual business of close to a billion dollars.



EQUIPMENT

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 131st St., New York, mentioning the number of the item.

954—Hercules Chemist Published

The summer issue of the *Hercules Chemist*, quarterly review of Hercules Powder Co., Wilmington, has just been published. An aid to users and potential users of Hercules products in keeping up to date on the latest technical developments in Hercules research laboratories and plants, the *Chemist's* current issue briefly discusses the use of rosin in soap based on a booklet giving the full details. Ethyl cellulose plastics, along with a sample, are described and discussed both as to properties and use. The Hercules Photoelectric Color Grader for rosin is illustrated and described. A page of recent Hercules developments conclude the current issue which is available on request.

955—June-July A.I.F. News

The June-July issue of A.I.F. News, published by the Agricultural Insecticide & Fungicide Association, New York, has just been issued. The current issue carries an article by Dr. J. G. Leach, head of the Department of Plant Pathology, University of West Virginia and now Acting Chairman of the War Committee of the American Phytopathological Society. Dr. Leach writes on "New Plant Pest Hazards created by War Shuffling of World Trade." Washington developments affecting the industry, the supply situation, and news comprise the remaining features of the new issue.

956—Dow Product Booklet

Dow Chemical Co., Midland, Mich., has just issued a comprehensive list of Dow industrial chemicals. The

list includes all of the products offered for sale by the various divisions of the company.

Oil Tax Review Slated

Colgate-Palmolive-Peet Co., Jersey City, N. J., has been granted the privilege of a review of the decision of the United States Circuit Court of Appeals for the Third Circuit on the meaning of the term "first domestic processing" contained in the 1943 tax law with reference to taxes on imported coconut oil. The decision, which was handed down by the U. S. Supreme Court is a reversal of a previous ruling on the same subject made only about a month ago. A conflict in views of two circuit courts brought about the Supreme Court's decision to review and rule one way or the other as to the precise meaning of the law.

C-P-P Atlanta Man Dies

W. E. Stieghorst, 51, district sales manager for Colgate-Palmolive-Peet Co. in Atlanta, Ga., died in a private hospital there June 22. Born in St. Louis, Mr. Stieghorst had resided in Atlanta for 12 years.

Surviving are his wife; a daughter, Mrs. C. T. Smith Jr. of Atlanta; his parents, Mrs. and Mrs. C. E. Stieghorst of Stanton, Mo.; a sister, Mrs. Abe Brown of St. Louis, and one grandchild.

Chicago Association Golf

Fifty-five members and guests of the Chicago Drug and Chemical Club and the Chicago Soap, Perfumery & Extract Association were on hand at Itaska Country Club, June 22 for the first round in their annual summer golf tournament. Scores reported by David Olin of Service Stores, official scorer, were as follows:

Class A—1st—R. Brown, 86, 17, 69; 2nd—S. Lind, 91, 20, 71;

3rd—C. W. Allen, 79, 5, 74; 4th—Elmer Smith, 84, 9, 75.

Class B—1st—A. Nelson, 96, 26, 70; 2nd—J. Murphy, 95, 24, 71; 3rd—W. R. Nay, 93, 21, 72; 4th—R. Holland, 96, 23, 73.

Class C—1st—R. Sandke, 97, 28, 69; 2nd—G. Stanton, 101, 29, 72; 3rd—A. Sewell, 107, 30, 77; 4th—E. Graham, 104, 26, 78.

Class D—1st—J. Gauer, 104, 32, 72; 2nd—A. Miller, 122, 49, 73; 3rd—E. L. Drach, 109, 34, 75; 4th—H. Callahan, 115, 40, 75.

Four guest prizes were also awarded to W. Wyatt, T. Brna, A. Steiger and R. Kline. The next gathering is to be held at Evanston Country Club late this month.

Base Wage Hearing July 15

A hearing to discuss the fixing of 40 cents an hour as the minimum wage rate in the soap and glycerine producing industries will be held July 15, in New York. The hearing, which has been called to present the facts pro and con on this base rate, comes as a result of the recommendation of Industry Committee No. 60, which was appointed May 12 by the Wage and Hour Administrator. Committee No. 60 represents the chemical, petroleum and coal products and allied manufacturing industries, which includes soap and glycerine producers. The Wage and Hour Administrator will approve or disapprove the recommendation based on the hearing. If he approves, he will issue an order requiring 40 cents an hour as the base rate of pay.

Soap Sculptors Win \$1,120

Prize winners in the Nineteenth Annual Competition for Small Sculpture in Ivory soap with \$1,120 in cash prizes awarded by Procter & Gamble have just been announced by the National Soap Sculpture Committee. The competition, which opened last fall and closed May 15, is judged by a group of leading sculptors from all parts of the United States.

KRANICH

WAR shortages are bringing about many changes in our line of soaps for jobbers and converters. Fortunately, our many years of experience in the manufacture of quality soaps enable us to make these changes with the minimum inconvenience to our customers. Every possible effort is being made to maintain the quality of KRANICH soaps.

To protect our regular customers we are filling orders on many hard-to-get products on the basis of former purchases. We know you will appreciate the fairness of such a policy.

Plan to consult KRANICH regarding your supply problems. — We may be able to help.

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Chlorinated Textile Agents

Among the by-products from the manufacture of saccharine are organic compounds containing active chlorine whose industrial utilization has been made possible because of their low price. Para-toluene sulfone monochloramide is sold under the names of Activin, Chloramine, etc.; para-toluene sulfone dichloroamide is sold to the textile trade mixed with alkaline salts such as soda ash, under the name of Peractivin. The sodium salt of the monochloro compound dissolves in water, giving a neutral solution, but the dichloro compound dissolves only in the presence of an alkali.

These sulfone chloroamides are very useful as auxiliary agents in laundry work because of their gentle oxidizing action even at high temperatures. They thus avoid deterioration of the fabric and enable a reduction in the length of washing and steeping times. This treatment is particularly appropriate for bleaching and scouring delicate textiles; it is also applicable in hospital laundries where stained materials have to be cleaned.

Use of these agents is a good preparation for a subsequent chlorine or peroxide bleach in which the consumption of bleaching agent can be considerably reduced. The presence of the agent maintains a cleaner washing fluid. For 122 pounds of goods, 1-3 pounds of the chloroamide is sufficient. Used baths of sulfone chloroamides can be regenerated with the aid of an alkaline hypochlorite, by whose action the sulfamide formed during use is converted to the active sulfone chloroamide. George Heron. *Manufacturing Chemist* 14, 72 (1943).

To Study Soybean Damage

Dr. Marcus W. Hinson, noted chemist, associated with the American Chemical Society, has been placed in charge of a War Production Board project whose aim is to find ways and means to prevent 50 million pounds of soya bean oil from being poured down the drain. Of the 1942 bumper soybean crop of 210 million bushels, some 22 million bushels or about 10 per cent were damaged by excessive moisture, collected during a wet harvest season

and while lying in the fields all Winter through inability of farmers to handle them properly. From the damaged beans the oil extracted by the processors comes out as a cloudy, impure emulsion that mars its amber color and reduces commercial utility of the oil. To make the oil usable was the job assigned to Dr. Hinson, who is being assisted by other chemists throughout the country. Headquarters of the project are in the National War Agencies Building, 226 W. Jackson Blvd., Chicago.

Disinfection of Dishes

A progress report on "Disinfection of Dishes and Utensils," a study currently being made by a committee of the American Public Health Association, appears in the June, 1943, issue of the *American Journal of Public Health*. Last year the committee reported on a survey of dishwashing machines as they were being operated in public eating establishments, the report indicating a general lack of uniformity in turning out visually and bacteriologically clean dishes.

In continuing its work during the past year the committee has given most of its attention to the problem of developing a standard soiling material consisting of mixed foods that could be applied to standard dishes, with its percentage removal under various test conditions to be taken as a measure of the degree of effectiveness of the washing operation. In testing sample soil combinations it was found that greases could be removed readily by hot water alone, as could such substances as egg, milk and flour, unless thoroughly dried.

Tests indicated drying of soil on the dishes to be quite a critical factor, the report states. Considerable work was done on standardization of a satisfactory drying technique, and with this factor now stabilized, the committee believes that it should now be possible to develop a satisfactory standard soil. Work along this line will continue through the coming year.

Another part of the past year's work was the study of various commercial makes of dishwashing machines in an effort to determine weaknesses in construction and operation. For one

thing it was found that many wash tanks are not so designed that all surfaces can readily be cleaned. The design of pumps was also said to be such that in many cases they interfere with proper cleansing. The use of easily disassembled sanitary supply lines, and stainless steel seated globe valves on the water lines were recommended as improvements in machine construction.

W. D. Tiedeman serves as chairman of the committee. Other members are: J. D. Caldwell, F. Clarke Dugan, A. W. Fuchs and William T. Ingram.

Fungus Fabric

A standardized quantitative method for the evaluation of the ability of fungi to decompose cellulosic fabrics is described. Certain features of this procedure may also prove useful in developing a method for testing rot-proof treatments for fabrics. The method, employing glass fabric and a liquid nutrient, possesses advantages with respect to accuracy and speed over previously reported methods. Provision for uniform aeration of culture chambers is highly important. *Metarrhizium sp.* and *Chaetomium globosum* are superior to others as test organisms. G. A. Great-house, D. E. Klemme and H. D. Barker. *Textile Colorist* 65, 168-75 (1943).

Insect Repellents

An insect-repellent compound for use on the skin is cyclohexyl caprate, which may be used with alcohol, with oil, or with soap and water. Ludwig W. Wasum, to Kessler Chemical Co. U. S. Patent No. 2,302,159.

Fat Splitting

Fats are split and glycerine and fatty acids recovered separately, by forcing a mixture of glycerides and water through a heating zone in which the pressure, temperature and time of treatment are such as to cause the water to react with the fats and liberate glycerine and fatty acids. The resultant mixture is next passed through a cooling zone where it is cooled to a temperature below the vaporization points of the fatty acids and glycerine. The fatty acids are

separated from the glycerine by the difference in specific gravity. Benjamin Thurman. Canadian Patent No. 412,684.

Colloidal Electrolytes

Lauryl sulfonic acid rather than soap has proved to be the most satisfactory colloidal electrolyte for exact experimentation. Its properties are closely similar to those of all straight-chain colloidal electrolytes.

In extreme dilution a colloidal electrolyte exists practically only as independent simple ions. At a certain dilution, called the critical concentration for the initial formation of micelles, association rapidly becomes predominant and colloid forms in substantial proportions. This second range of dilute solutions concludes almost abruptly at another critical concentration, where the behavior again completely alters and the conductivity and other properties pass through a minimum. At all high concentrations, diffusion and conductivity rise slowly, tending towards those of ordinary electrolytes.

Electrolytic transference numbers of solutions of lauryl sulfonic acid have been measured over a wide range of concentration. The transport number of sulfonate radical rises from that of the simple ions at infinite dilution of a sixfold sharp peak in 0.055 molar solution, where diffusion exhibits a minimum, but where conductivity and osmotic coefficients are still falling off. More than one kind or composition of colloid must be present in such solutions of colloidal electrolytes. M. E. Laing McBain. *J. Phys. Chem.* 47, 196-204 (1943).

Laundering versus Hygiene

In laundering white goods the high temperatures destroy germs. In washing wool, silk and rayon, the wash liquor should contain active oxygen in a concentration of 0.1 gram per liter. This is equivalent to 1 gram of perborate or 0.67 cc. of 30 per cent hydrogen peroxide per liter. Soda has no bactericidal action, while soap is slightly bactericidal. Bruno Walther. *Wäscherei-Ber.* 9, 183-5.

ALL PURPOSE SOAP SPEC

(From Page 27)

R = Net weight of material at time of manufacture;

L = Percentage moisture and volatile matter at 105° C.

H-2. Product should not show evidence of salt crystallization on the surface either initially or during use.

H-3. It is desired to procure products which contain minimum amounts of water, inorganic salts and free fatty matter.

NOTICE:—When Government drawings, specifications, or other data are used for any Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any right or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

SOAPS FOR MEN

(From Page 24)

in the cosmetics or women's toiletries departments. Not so today. One New York department store, Lord & Taylor, which is looked up to as a leader and innovator in merchandising circles has a complete men's soap department. In it soap of course occupies major space. In addition, there are all types of sets, as described previously in this article, and a wide range of lotions, hair preparations, and similar items. Other stores are quickly following suit in installing men's soap sections. It would appear that the rosy aspects of today's market augur well for the future. ★★

Peroxide Number

The rancidity of fat can be detected essentially earlier by determination of the peroxide number than by other analytical methods (with which detection is possible only at peroxide numbers over 0.03) or by taste (which is sensitive only at peroxide values above 0.08-0.09). The peroxide number can be expressed in iodine units. For this purpose the determination is carried out as follows: 1-2 grams of the fat are dissolved in 20-40 cc. of a 1:1 mixture of chloroform and acetic acid, 1 cc. of 50 per cent aqueous potassium iodine solution is added. The

solution is stirred and after 30 seconds diluted with 100-200 cc. of water and titrated with 0.01 Normal sodium thiosulfate solution, using starch as an indicator. A. A. Zinov'ev and A. A. Bepalova. *Voprosy Pitaniya* 9, No. 5, 86-9; through *Chem. Abs.*

Oil Fractionation

Corn, cottonseed, soybean and linseed oils have been separated into fractions of widely different degrees of unsaturation by liquid-liquid extraction with methanol. The fractionation of fats by solvent extraction is a valuable tool in the study of glyceride composition of fats. Fatty acids of soybean oil are not distributed in true random fashion or in true maximum even distribution. A. W. Kleinsmith and H. R. Kraybill. *Ind. Eng. Chem.* 35, 674-6 (1943).

Mildewproofing Agents

At the present time the following fungicides are being applied on cotton fabrics to meet the mildewproofing requirements of the Philadelphia Quartermaster Depot:

Phenolic Derivatives: *ortho*-phenyl phenol, 2-chloro-*o*-phenyl phenol, pentachlorophenol, tetrabromo-*o*-cresol, salicyl anilide, and 2,2-dihydroxy-5,5-dichlorodiphenyl methane.

Naphthenic Acid Derivatives: copper naphthenate, zinc naphthenate.

Zinc Organic Compounds: zinc dimethyl dithiocarbamate.

Copper Compounds: copper oleate.

Cuprammonium Compounds: cuprammonium hydroxide, cuprammonium fluoride.

Mercury Compounds: phenyl mercury acetate, phenyl mercury oleate, phenyl mercury trinitriethanol lactate.

Quaternary Amines: alkyl dimethyl benzyl ammonium salts, cetyl pyridinium chloride.

Organic Amines: amino guaiacol benzothiazole imino urea. J. E. Goodavage. *Am. Dyestuff Reporter* 32, P267 (1943).

SANITARY PRODUCTS

SECTION

Insecticides • Disinfectants • Moth Products
Floor Products • Polishes • Chemical Specialties

THE DEADLIEST BARRAGE!



Cattle Spray WITH VELSICOL AR-60

- HIGHER KILL • LOWER COST
- STRONGER REPELLENCY

The biggest killer on the Farm Front! Cattle Spray made with Velsicol AR-60 has been proved under University testing to kill more flies and to "keep 'em away" longer than any other ingredient! Not only has it been tested, but it has proved itself on the market! One manufacturer wrote us that Velsicol AR-60 had increased his sales 300% and that his trade name was remembered by farmers the next season. "The best we ever used," they said.

How about your product? Is it "good" or "better"? It can only be "best" if you use Velsicol AR-60! And besides it will save you money!

If you make Agricultural and Greenhouse sprays you have multiple interests in the efficiency of Velsicol AR-60. In your sprays for flies, bed bugs, mosquitoes and roaches, find out about our Velsicol AR-50.

WRITE US FULLY! WE'LL CONSIDER YOUR
PROBLEM PERSONALLY AND INDIVIDUALLY!

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AR-60

IS STILL AVAILABLE IN QUANTITY



When it comes to chemical warfare against *obnoxious odors* common to the basic ingredients of insecticides and other technical products, M M & R IS A VETERAN, cited many times for *conspicuous service* over and above the usual call of duty.

Such widely used M M & R odor killers as DEODORANT L37 and NEUTRALIZER No. 202 have routed numerous *undesirable odors* . . . accomplishing the task at a cost so small as to emphasize the efficiency and value of these *positive neutralizers that deodorize without perfuming*.

Whenever the assignment has been one of *perfuming as well as neutralizing*, PERFUME OIL SWEETGRASS M M & R and BOUQUET B. L. S., have been outstanding

among M M & R's many effective *double-duty* performers.

If your order of the day is, "*A more positive odor neutralizer or perfume oil at less cost*" then M M & R can serve you well. We invite you to send us a pint or two of your unperfumed spray (or other technical products); with a notation regarding contents; and your requirements checked as follows:—

- ☐ Neutralize odor without perfuming
- ☐ Neutralize odor and perfume
- ☐ Our budget is per gallon of spray

There's more than one good reason to expect that the returned samples will satisfy you *on every score*.



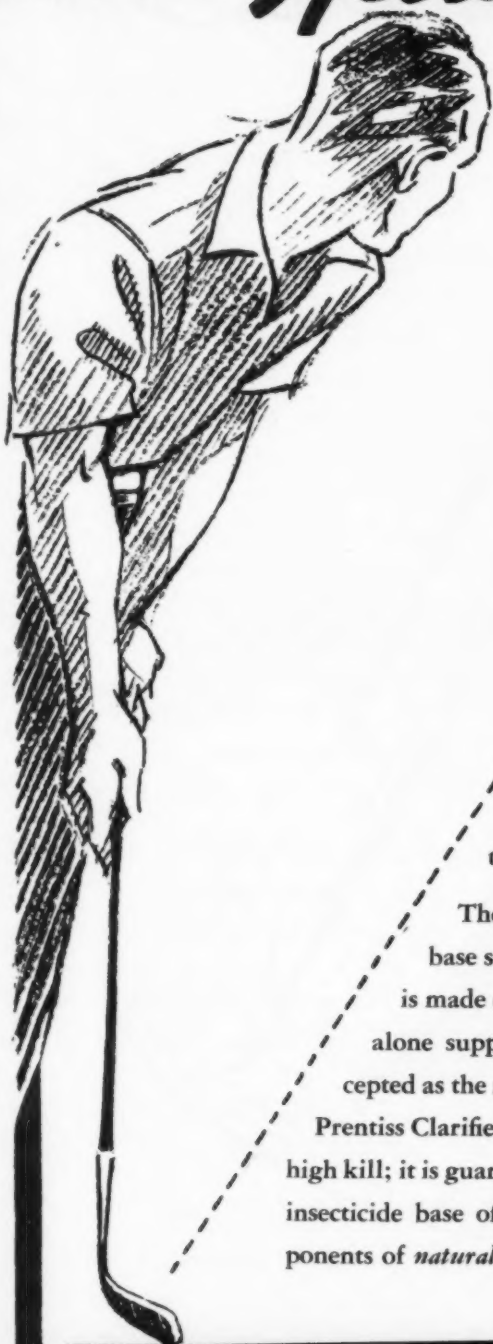
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JUST *Naturally* GOOD



PRENTISS CLARIFIED PYRETHRUM CONCENTRATE #20

The difference between mediocrity and stardom is dependent upon *natural* ability to perform under every circumstance. In fact it takes that extra something—inbred by *nature* to dominate the field.

The same can be said of insecticides. A *natural* insecticide base such as Prentiss Clarified Pyrethrum Concentrate No. 20 is made only from the finest pyrethrum flowers in which *nature* alone supplies the deadly pyrethrins. *Natural* pyrethrum is accepted as the most toxic insecticide base for a safe and effective spray.

Prentiss Clarified Pyrethrum Concentrate No. 20 always gives the same high kill; it is guaranteed to contain 2.0 grams pyrethrins per 100 c.c. This insecticide base offers spray manufacturers the lethal time-tested components of *natural* pyrethrum. It's just *naturally* good.

R. J. PRENTISS & CO.
80 JOHN STREET, NEW YORK CITY
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20 Years ...



POWCO
BRAND
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KILLING POWER—that's the thing!

In the Beginning * * and Now



***When John Powell and Company
was founded in 1923, household***

insect sprays were in their early infancy and of doubtful efficiency at best, pyrethrum was a commodity of uncertain antecedents, and rotenone was an unknown. Over the span of the past twenty years has come rapid and far-reaching progress in the field of household insecticides, stock sprays, and new and safer materials for the control of agricultural insects. Paralleling new developments in the general field of organic chemistry, research has brought forth new synthetic materials to take their place alongside the products of nature in the never-ending battle of insect control.

We are proud of the part which we have played in the wide development of new and better insecticides since 1923, in helping to improve quality, to maintain higher standards, and to expand the market. We look forward with high hopes to a continuation of this progress after the present war, and a still wider expansion in demand for the products of our industry far greater than anything we have yet seen.

Research in our laboratories which we feel will bring forward new and better things after the war, has during the past twenty years given us many new developments of which the following are a few of more recent accomplishment:

PYRIN—(lower in price than straight Pyrethrum Extract) stretches out Pyrethrum stocks two and one-half times compared with straight Pyrethrum Extract.

STIMTOX "A"—(the low cost fortified Pyrethrum Dust) for every pound of Stimtox "A" used there is a saving of about four-tenths of a pound of 0.9% powder.

20% PYRETHRUM EXTRACT — POWCO BRAND Pyrethrum Extracts of 20% pyrethrins or higher.

JOHN POWELL & CO., INC.
118 East 32nd Street, New York City.



INSIDE NEWS

JULY

PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y.

1943



Not diamonds, but chunks of alkyd resins which may be used in emulsions to coat many surfaces in place of paints.

Alkyd Resins in New Emulsions

Alkyd resins, the prototypes of which are the reaction products of glycerine and phthalic anhydride or acid, are finding new fields of usefulness in the form of emulsions. Although known for some time, it is only during the last year or so that these resins have really begun to come into their own. Their use not only cuts down the need for vital solvents, but these emulsions also have many other advantageous properties to recommend their use.

According to a government text on syn-

thetic resins, alkyd-resin emulsions are especially suitable for coating porous surfaces such as brick, concrete, plaster, stucco and masonry of all kinds. Since they allow the curing of the plaster to continue, alkyd-resin-emulsion coatings may be applied directly over fresh plaster without a sizing coat. Moreover, the usual pigments may be incorporated. Applied by brushing or spraying, they dry quickly and combine the ease of application of water paints with the durability, washability and hardness of oil paints. (380)

Brazil's Rubber Transport Problem to be Aided by Parachute "Task Force"

Brazilian and United States engineers are aiming to develop to the maximum the rubber-growing possibilities of the almost impenetrable jungle areas of the Amazon Basin. This was recently revealed when a spokesman for the United States Secretary of Commerce declared that a "task force" will drop men by parachute into jungle rubber areas from planes based on Manaus, the 273-year-old capital of the vast State of Amazonas. Flying prospectors, armed with machetes and food, will "bail out". Trails will be broken to the nearest river and the clearing enlarged to the size of a landing field. The planes will then come in and actual operation of tapping rubber trees will begin. (381)

Propylene Glycol for Cigarettes

Canadian cigarette smokers who have been complaining about tobacco dryness resulting from the elimination of glycerine, aromatic oils and other critical war materials, as well as cellophane wrappings, are welcoming the news that propylene glycol, not on the critical list, will be used in the future to case the tobacco and keep it moist. Glycerine supplies saved by the use of glycol will be made available for the manufacture of cellophane to wrap and insulate the packages as a further protection. Cigarettes to be shipped overseas to the armed forces will be given the glycol treatment and a fair portion of cigarettes for civilian consumption will also be so treated. (382)

Oil Treatment Reduces Corn Infestation

Although no economical way yet has been found to treat canning corn against corn earworm infestation, tests made in Nebraska indicate a treatment which is practicable for fresh market corn and which canners or seedsmen who grow costly hybrid corn for seed might adopt. The methods produced yields which were around 80% free of infestation while untreated plots yielded only around 32%.

The treatment consisted of individual ear treatment with mineral oil and mineral oil and insecticide mixtures. The oil was injected into the silks of the ear with an automatic ejector oil can.

Oil used was mineral oil of viscosity 200 degrees Saybolt. Treatments were (1) oil alone, (2) oil of the same quality with viscosity of 100 plus 0.2% pyrethrins, (3) 100 viscosity oil plus 2% dichloroethyl ether and (4) clipping of silks immediately after fertilization was completed.

Average percentage of worm-free ears after harvest for each method was as follows: (1) 67.3%, (2) 81%, (3) 78.3%, (4) 36.5% and untreated check 32.6%. (383)

Molds Vs. Guinea Pigs In Vitamin Tests

Molds can now be made to substitute for animals in making tests to determine vitamin content for food. By using the molds according to a method reported recently by a university biologist, vitamin analysis can be speeded up.

Molds and bacteria propagate faster than the usual laboratory animal specimens—guinea pigs, rats and the like, and the new technique permits molds to be "conditioned" for determining a particular vitamin. Most of the micro-organisms used can manufacture their own vitamins, but there is one particular kind they cannot make, it was reported. Therefore, when the culture is placed in the food which is to be tested for that particular vitamin, the amount of vitamin present is proportional to the rate of growth of the mold.

Because of a shortage of the particular molds that were deficient in the single vitamin, scientists worked out a method of "conditioning" the mold varieties for work with thiamin, riboflavin, nicotinic acid, pantothenic acid or biotin. For example, the mold strain is exposed to ultra-violet or X-rays in the presence of thiamin and after awhile it can no longer live without added thiamin and can be used to test for this vitamin. Once so "conditioned", the strain retains the weakness, for something apparently happens to the genes. (384)

NATIONAL CAN



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Mold Check For Bread

The chemist checks nature at one point by delaying the growth of unwanted organisms—the molds that flourish on bread in warm humid weather. Approximately three billion loaves of bread for civilians and soldiers will be protected this year against mold and against a microbial growth known as "rope" by the addition of "Mycoban" propionate salts. This product, manufactured by chemical means, is the same as that which occurs as a natural ingredient in certain foods, such as vinegar, Swiss cheese and other milk-derived products. Two or three ounces added to the dough for 100 loaves will delay the development of mold for several days, allowing ample time for delivery and consumption of bread. It in no way affects taste, texture or appearance. "Mycoban" is also used to inhibit mold growth in pies, cakes and butter. In the case of butter the inhibitor is incorporated into the parchment wrapping and thus protects the surface of the butter, where the mold usually flourishes. (385)

So Those Who Fly May See



National Can makes this small container to hold fog-proof paste for use on goggles, windshields, gas masks and other equipment, in order to assure clear vision for our military pilots, observers, machine gunners and other troops. It is another example of how industry on the home-front can contribute to victory on the battle-front. (386)

Substitutes For Stoppers

The South African Forest Products Institute has found several domestic woods that can be used as substitutes for corks and rubber stoppers, the British press reports. Corkwood, mgoma and sanga are suitable for this purpose, it is said. The woods are first compressed and then soaked in water for several hours to restore them to their original volume. (387)

Technical Topics

PETHIDINE has been found comparable to codeine for relieving pains due to wounds in British research. Chemically, pethidine is said to be the hydrochloride of the ethyl ester of 1-methyl-4-phenylpiperidine-4-carboxylic acid. It may be administered by mouth, intravenously, intramuscularly or subcutaneously. (388)

AMINOACRIDINE and **DIAMINOACRIDINE** was said to be non-staining, while the newest antiseptic dyes. The 2:7-diaminoacridine is declared to be as active as proflavine but of lower toxicity. Aminoacridine was said to be non-staining, while the diaminoacridine stains the skin pink. (389)

ORTHO-AMINODICYCLOHEXYL production in experimental quantities has been started by an American manufacturer. The material is declared to be a strong, primary amine and to be indicated in reactions where an essentially water-insoluble amine is required. (390)

PHENOTHIAZIN and related compounds have been found to induce various degrees of anemia when fed to mice in recent Canadian investigations. The anemia is accompanied by the appearance in the blood of refractive globular bodies attached to the red cells. Sulfonamides may also cause the formation of the bodies, it was found, though to a lesser degree than the thiazines. (391)

UREA is being employed in Britain to a considerable extent in the timber trade. It is used to prevent the splitting of timber during seasoning or drying and also for the treatment of wood so that it can be bent or shaped for various purposes. (392)

TOBACCO FAT is employed to produce a soap in development work now being carried on by an American agricultural experiment station. A number of other interesting products are also said to have been obtained from low grade tobacco, including an oil extracted from tobacco seed. (393)

GUM GUAIAIC PRESERVES FOOD—Gum guaiac is being used extensively in the preservation of considerable quantities of food for the armed forces. The juice, which prevents fats from becoming rancid or from losing their palatability, is used in meats, but it will also be used with dehydrated fruits and vegetables. Paper wrapping of fatty foods will also be impregnated with guaiac juice to prevent the fats from soaking through. (394)

ASCORBIC ACID DETERMINATION by an improved photoelectric method was described in a recent British scientific journal. In the process an excess of dichlorophenol-indophenol is added to the extract containing ascorbic acid, and the unreduced dye subsequently removed with chloroform. The photoelectric measurements are then made on the chloroform solution obtained. (395)

SILICA GEL is finding increased use as a drying agent for industrial gases in Germany, according to a report in a chemical journal from that country. In a process described the gas to be dried is passed upward through a column of fine-pored gel. The absorbing towers are usually operated in pairs, one being regenerated with heat while the other is actively functioning. (396)

CELLULOSE PRODUCTION from straw was comprehensively described in a recent British chemical publication. A pilot plant employing the Pomilio process was said to now be operating on a twenty-four hour schedule. The straw pulp is consumed in the manufacture of special papers. (397)

RESINOUS RUBBER ISOMERS suitable for making coating compositions of various kinds can be made by treating rubber with phenols and certain acids or isomerizing salts it is revealed in a recent British patent. In the form of solutions or emulsions the isomers are suggested for use in making coatings for wires, films and foils, as binding agents for coating masses and as molding compositions. (398)

SEAWEED is being used for the production of artificial fibers in experimental work under way at an English university. The products are declared to resemble various types of rayon. (399)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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their manufacture, testing and use

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Discovery of Bacteria—historical background on the germ theory of infection.

Principles of Disinfection — the role of chemical preparations in disinfection; definition of disinfectant terms.

Coal Tar Disinfectants—a review of their manufacture and use.

Cresol Compounds—Liquor Cresolis Compositus, B.A.I. Compound, petroleum-type cresylics.

Pine Oil Disinfectants—manufacture, properties and uses.

Hypochlorites—manufacture, properties and uses of chlorine disinfectants.

Formaldehyde—its applications in the disinfectant field.

Oil Soaps—manufacture, sale and use of jelly soaps, green soaps, auto soaps, floor scrubbing soaps, etc. Special attention is given to manufacture of oil soaps from fatty acids.

Liquid Soaps—The case for liquid soaps for wash-room use. A review of raw materials, manufacturing methods, use, etc., with special attention to the problems of clarity, concentration, dispensing equipment, etc.

Soap Dispensers—a review of the common types of liquid and powder soap dispensers, push-in, push-up, tilt, goose-neck, pullman, etc.

Floor Waxes—A review of raw materials for floor wax manufacture and a study of manufacture and application of liquid waxes, paste waxes, water-emulsion waxes.

The Insect Problem—A review of the general role which insecticides must fill in man's battle against the insect world.

Pyrethrum Insecticides—The important place that pyrethrum has taken in the manufacture of non-poisonous insecticides. Manufacture, testing and use of pyrethrum insecticides are reviewed.

Rotenone Materials — Occurrence and toxicity of rotenone, and its use as an insecticidal raw material. Comparisons with pyrethrum on toxicity and deterioration.

Synthetic Insecticides—The most complete review yet published of the chemical nature, characteristics, and use in insecticides of a dozen synthetic materials.

Activators—The action of activators in stepping up insecticide toxicity. A study of activators which are in current use.

Roach Control — Roach powder formulation. The role of sodium fluoride and borax.

Bedbug Liquids—Control methods and special preparations.

Livestock Sprays—Manufacture and use of cattle sprays, with particular emphasis on repellency, application and choice of oil base.

Sprayers—A review of hand, continuous and electric types. Applicators for aerosols are also discussed.

Moth Preparations — Use of paradichlorobenzene, naphthalene, cedar preparations, etc., in moth control. Cautions on labeling.

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Appendix—Complete text of Insecticide Act of 1910, Caustic Poisons Act, Peet-Grady Test for Insecticides, FDA Method for Disinfectant Testing, Mercury Reduction Method, Seil Method, NAIDM Specifications, list of approved antidotes.

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DURING the past year, the general complexion of the insecticide and disinfectant industry has changed perhaps more than in the entire ten years preceding. New things and changes have come with unprecedented swiftness, some propelled by the necessities of war, others the fruition of research for some years past. Mostly these new developments have been synthetic materials to augment or replace those raw materials which have been used as the basis for insecticide and disinfectant manufacture for the past decade or two. That even further new things are in the offing is quite generally believed.

The effect which these new materials are having on the present market for disinfectants and insecticides is quite apparent. The effect which they will have on civilian markets after the war is likely to be profound and far-reaching. They represent progress which has appeared to gain momentum since Pearl Harbor, and which bids fair to bring a new disinfectant and insecticide industry before it is over.


As has been pointed out by a prominent chemist in the industry, the wise manufacturer will look to the future and to the new products,—products of greater efficiency, products with less disagreeable characteristics such as objectionable odors, and products of comparatively low cost. He says that we are already in the midst of a revolution in disinfectant and insecticide manufacture, although we may not appreciate that fact, and that the old products

will have tough sledding after the war if their manufacturers do not revamp them to meet new conditions and new competition. Like him, we too feel that the handwriting is on the wall and that the manufacturer who is looking to his post-war markets cannot afford to ignore it.



EVERYBODY in insecticide circles is talking about the new Army louse powder and the possibilities of diphenyl trichloroethane for other household and agricultural insect control,—that is everybody but the Army. The Army's usual reason, "military secret," does not seem to hold water; however, in this case. The industry appears more inclined to suspect that the Army prefers not to discuss the new louse powder,—and also the delicate subject of insect repellents,—because they have made several blunders in their procurement of these materials resulting in a serious waste in vital materials, labor, shipping, and above all, time. The old excuse of military secrecy, we suppose, is as good as any to hush things up when discussion might become embarrassing. But it is an excuse and not a valid reason for covering mistakes which might well have been avoided. To avoid a continuation of such mistakes in the future, it is our own thought that the searching spotlight of open discussion might prove very effective.

N. A. I. D. M. HOLDS



SHORTAGES of raw materials and containers as a result of war time influences, newly developed war time markets and new products to fill army and navy needs were in the spotlight as members of the National Association of Insecticide & Disinfectant Manufacturers met for their annual mid-year meeting at the Hotel Statler, Cleveland, June 7 and 8. A number of government speakers and importers were on hand to outline the raw material situation, particularly as it applies to supplies of pyrethrum, rotenone and coal tar raw materials, while representatives of the container manufacturers discussed the supply outlook and made definite proposals for standardization of bottles to help alleviate present shortages. Army specifications for disinfectants were discussed in detail by Dr. E. G. Klarmann, Lehn & Fink Products Corp., while the needs of the armed forces for disinfectants were discussed by both Jack Varley of Baird & McGuire, Inc., St. Louis, and Dr. G. F. Reddish, Lambert Pharmacal Co.

The opening session of the war conference, which attracted an attendance of approximately 350 persons over the two-day period, was addressed by W. O. Buettner, secretary of the National Pest Control Association who discussed the question of insecticide supplies from the viewpoint of the pest control operator. Mr. Buettner outlined some of the difficulties that pest control operators are facing as they find themselves unable to get accustomed materials, and have to turn to substitutes which often are far from what might be desired. In particular he mentioned that trouble is being encountered in the use of sodium silicofluoride as a replacement for sodium fluoride. He reported a number of cases of blood clotting apparently resulting from use of this replacement roach killer.

The opening session also heard a report by Dr. R. B. Trusler of Davies-Young Soap Co. who presented for adoption as the official standard of the association a specification for water-dispersion floor wax which was published in the June, 1943, issue of *Soap and Sanitary Chemicals*. The specification was described as being based on rather liberal requirements which leave considerable latitude to the manufacturer in his selection of the exact raw materials, and offer some opportunity for exercise of ingenuity in compounding a product which will still meet the performance tests. No methods were included, Dr. Trusler stated, on determination of tackiness and slipperiness, because no completely satisfactory methods have yet been developed. The committee will continue its work along this line, however. The only change made in the draft of the specification as published last month dealt with the subject of Sediment under Detailed Requirements. In providing that a maximum of 4 per cent sediment be allowed, this requirement was amended to provide that this be based "on total solids."

In connection with the discussion of floor wax specifications, Dr. G. A. Bowden of A. S. Boyle Co. contributed a number of useful observations. He recommended that floor wax specifications be written in such a manner that more raw materials can be used than has been the case in the past. There are numerous rosins and resins which may be used, he pointed out, which when carefully blended and modified with beeswax, etc., give a product of tensile strength superior to carnauba wax. He referred rather critically to certain so called synthetic waxes which he said are not truly synthetic waxes, but rather merely blends of anywhere from two to more than a dozen other products. These make only a fair wax, he indicated, the prod-

S WAR CONFERENCE

uct not being good for linoleum or water-dispersion waxes.

At the Tuesday afternoon session a report on the insecticide raw material supply situation was presented by P. H. Groggins, chief of the Chemicals Division, U. S. Department of Agriculture. A resume of Mr. Groggins' remarks is presented elsewhere in this issue. H. Dudley Hanson, safety director of Cleveland Graphite Bronze Co., spoke on "Sanitation in a Large War Plant." Another speaker was Melvin Goldberg of the Insecticides and Fungicides Unit of WPB. He warned users of pyrethrum for household insecticides and cattle sprays that there will probably be no supplies for them this year, although it is possible that some small quantities might possibly be made available for civilian use where public health is a factor. Pyrethrum Order M-179 which lists approved end uses for pyrethrum insecticides, will very shortly be revamped, he indicated, and Rotenone Order M-133 will also probably be amended to fit in with the War Food Production Order.

On the subject of sprayers he told insecticide and sprayer manufacturers that the next move is strictly up to them. A program has been worked out, he reported, to release metals for spray guns, but to date not

one sprayer manufacturer has filed the prescribed form.

W. E. Braithwaite of the National Bureau of Standards read a proposed simplified practice recommendation for household insecticide container sizes. Sizes suggested were one pint, one quart, one gallon, five gallons and fifty-five gallon containers. The meeting went on record as endorsing the work of the Bureau in setting up this program of standardization, and asked that the standard specifications be submitted to the association for adoption in accordance with its regular procedure.

Speaking on the outlook for continued supplies of glass containers, E. L. Bertrand of Owens-Illinois Glass Co., reported that while raw materials for the manufacture of glass are in comparatively good supply, fuel for the glass furnaces is an increasingly serious problem. If next winter should be a bad winter, some of the glass furnaces may have to be shut down, he warned. Paper for packaging is another increasingly serious problem, he indicated. He suggested that insecticide manufacturers pack a full two dozen of the pint size in one carton, and a dozen of the quart size, eliminating top and bottom pads if possible.

He reported that manufacturers of cosmetics, beer and soft drinks

Insecticide and disinfectant makers hear reports on raw material and container shortages, government needs, and development of new products to meet this demand . . . new floor wax specification adopted.



face container rationing to assure ample supplies for packers of drugs and food products, and warned manufacturers of chemical specialties as well that they may also face similar reductions in allowable container purchases.

J. L. Brenn of Huntington Laboratories discussed the drum supply situation, suggesting that users petition WPB on PD-1A forms for permission to repurchase used drums from consumers for permitted uses. He emphasized that permission from WPB is necessary before making such purchases, but suggested that limited numbers might be picked up if salesmen are encouraged to give as much attention to locating possible drums for purchase as they give to obtaining orders.

In connection with the problem of getting drums returned, Philip Lowry, general counsel of OPA, suggested that a sticker be placed on drums reading as follows: "Resale of this drum in violation of Office of Price Administration regulation is subject to law." Mr. Yates of Hercules Powder Co. called the attention of members to a booklet which his company has recently issued dealing with the problem of drum returns. Copies of the booklet are being obtained and will be distributed to NAIDM members by the association office.

THE opening speaker at the Tuesday morning session was John D. Conner, newly appointed Washington representative of the NAIDM. Mr. Conner reviewed "The Washington Set-Up," giving a brief summary of the functions and activities of the various federal agencies, and the laws, orders or programs which each administers in the insecticide and disinfectant field.

The balance of the Tuesday morning session was given over to disinfectant problems. The outlook on raw materials for disinfectant manufacture was covered in a symposium in which the following speakers participated: Jack Varley of Baird & McGuire, St. Louis, L. A. Schleuter, Coal Tar Products Section of WPB, Friar Thompson of Hercules Powder Co., and B. W. Conn of Shell Oil Co. A recapitulation of their comments

is carried elsewhere in this issue. A paper by Dr. E. G. Klarmann on disinfectant specifications, read at this session, also appears in the following pages.

"The Disinfectant Needs of the Armed Forces" were covered in two

CONVENTION PAPERS

Other addresses from the mid-year meeting of the N.A.I.D.M. will be carried in the August issue of SOAP AND SANITARY CHEMICALS. These will include contributions on the Disinfectant needs of the armed forces by Dr. G. F. Reddish of Lambert Pharmacal Co. and Jack Varley of Baird & McGuire, Inc., and a summary of the program of the Dept. of Commerce for glass container standardization prepared by W. E. Braithwaite.

papers by Jack E. Varley and Dr. G. F. Reddish of Lambert Pharmacal Co. Dr. Reddish dealt particularly with the development of new germicidal materials by the Sanitary Corps for the purification of drinking water. A suitable product for this use, he said, must kill all of the pathogenic bacteria that may be present, it must kill them quickly, and at the same time must leave the water clear and pleasant tasting. The product must be stable, safe, cheap and convenient to use, as well.

Mr. Varley's paper emphasized the increasing role that synthetic phenol germicides have played in supplying the disinfectant needs of our 1943 model army. He contrasted this trend with the almost exclusive use of cresol compound and cresylic disinfectants during the first World War.

He predicted that as doctors and nurses become more familiar with the uses and the merits of these new type products, that during the post-war period they will enjoy a much wider sale and use.

The Tuesday afternoon session was addressed by Dr. Russell Weisman, Professor of Economy of Western

Reserve University, who reviewed the world economic picture before the war, during the present emergency, and the logical deductions as to what the post-war economy may be.

At this session Dr. Badertscher of McCormick & Co. reported for the insecticide scientific committee, indicating that its current program is progressing satisfactorily, and promising that a recommendation regarding the Official Test Insecticide will be made at the December meeting. On this same subject J. J. T. Graham of the Department of Agriculture read the results of work done recently in the government laboratory at Beltsville, Md., particularly with regard to the use of the Mercury Reduction method. Reporting for the committee on insecticide specifications, Friar Thompson advised that his group had met with Dr. E. L. Griffin in Washington and that Specification O-I-541 will shortly be changed to include flies, mosquitoes, bed bugs, clothes moths, ants and other common household insects.

At this session, which was of particular interest to the insecticide group, Harold Noble of S. B. Penick & Co. outlined his views on the insecticide raw material situation and John Powell of John Powell & Co. spoke on the market possibilities for insecticides during the post-war period. Both papers appear elsewhere in this issue. In the discussion on the sprayer situation which followed Mr. Powell's address, the suggestion was advanced that the association appoint a committee to investigate the sprayer situation so that after the war the industry may have access to proper methods of applying insecticides.

Upon recommendation of Gordon Baird a suggestion was adopted that all bulletins issued by the secretary's office be sent by first class mail in order to expedite delivery.

Resolutions of regret were presented by a committee headed by W. J. Zick on the recent untimely deaths of Wallace Thomas and Simon Selig, both long prominently identified with the activities of the NAIDM. They were read to the group who stood in tribute to the two former members.

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 American Disinfecting Co.—Alexander Fabry
 Ampion Company—L. B. Schwarz
 Ansul Chemical Co.—Wm. R. Rinelli
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 L. A. Schlueter, Consultant, Coal Tar Unit, War Production Board, Chemical Branch, Washington, D. C.
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 John D. Conner, N.A.I.D.M., Washington Representative, Washington, D. C.
 J. J. T. Graham, Senior Chemist, U. S. Dept. of Agriculture, Beltsville
 Dr. E. L. Griffin, Insecticide Division, Food Distribution Administration, U. S. Dept. of Agriculture, Washington, D. C.
 P. H. Groggins, Chief Chemicals Division, War Food Administration, Washington, D. C.
 Dr. R. C. Roark, Chief, Insecticide Investigations, U. S. Dept. of Agriculture, Beltsville
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The Market Outlook on

INSECTICIDE MATERIALS*

THE Chemicals Division, U. S. Dept. of Agriculture has been charged with the important duty of obtaining insecticides and fungicides, and numerous other chemicals which are required for food production and food distribution. Our main function is to see that we get adequate supplies. In making our judgment as to what crops need protection, we have to be guided by the essentiality of crops. After we determine our requirements, the next problem is to determine what the supply situation is. Insofar as agriculture is concerned, we are going to have an adequate supply of insecticides to protect our crops. We won't have enough of certain desired insecticides such as pyrethrum and rotenone, but we will have satisfactory substitutes.

The Pyrethrum situation is probably the poorest of any. The outlook for the balance of 1943 is anything but hopeful so far as agricultural or civilian requirements are concerned. The outlook for 1944 is still unsettled, dependent upon a number of possible eventualities.

The Government has interceded to get pyrethrum from all parts of the world and has had some success. We are getting pyrethrum from Brazil and the Belgian Congo. Most comes from Kenya Colony. Although we are getting in almost as much pyrethrum as we did in 1942 and in 1941, the armed forces or lend lease take most of the material, and that is why there is so little left for agriculture or civilian uses. We thought originally we were going to get sufficient supplies to take care of all requirements, but it has not turned out as well as we expected. We are not going to get in as much from Kenya Colony as we expected. I do not believe there was adequate planting. It is well to remember that the United Kingdom does not ordinarily

use pyrethrum as an insecticide. They were more interested in rotenone than pyrethrum, and consequently were not particularly interested in the world production of pyrethrum to the same extent that we were. As the result of failure to recognize the use of pyrethrum we do know that a great deal of acreage was not wisely used.

As Viewed By

P. H. Groggins*

Chief, Chemicals Division, U.S.D.A.

Developments that may help for the future were begun some six months ago when the Dept. of Agriculture in cooperation with various other government agencies fostered a program to increase world production of pyrethrum. We found early that production of pyrethrum in the United States was not economically feasible. A great deal of labor is required; and we cannot afford the excessive expense involved.

The United States is prepared, however, to furnish the seed to any nation—Mexico, Peru, Ecuador, Argentina—and would assist in overcoming economic problems and giving reasonable assurance of marketing crops. This is a plan or program now on its way, with CCC assuming financial responsibility. Unfortunately we cannot realize the benefit of such a program over night, but we do hope that even before the war is over we will get considerable quantities of pyrethrum from new sources, and possibly it may do no harm to have some world competition in this matter.

The rotenone situation does not seem to be quite so bad this year.

We will distribute around three and one-half million pounds of rotenone during 1943. Last year it was nearer to seven million. It looks as though we will have five million pounds for next year. The Food Production Order pertaining to rotenone, which will be applicable to the 1944 season, will envision a distribution of about five million pounds. The new order pertaining to rotenone (the present order is M-133) will be amended when final surveys are received regarding next year's supply.

The arsenic situation is satisfactory,—at least I believe it will be. We are going to produce approximately sixty-five million pounds of lead arsenate, and close to ninety million pounds of calcium arsenate. Cryolite output will be 100 per cent more than last year. The situation on barium fluosilicate is currently entirely satisfactory. Production of copper sulfate and other copper compounds will this year be the greatest in history. For 1944 the situation on these domestically produced insecticide materials will in all probability continue on the same favorable basis.

We are indeed fortunate in having on hand a good supply of synthetics. There is the added possibility that an insecticide derived from the *sabadilla* plant will become of increasing importance. There are some new synthetics that will also be of interest; for instance, British patents 547871 and 547874 issued during 1943 to Geigy & Co. contain reference to a new synthetic organic material. This insecticide is now being produced in the United States. It has been tested by a number of government agencies and particularly by the Bureau of Entomology and Plant Quarantine.

* Before Natl. Assn. of Ins. & Disf. Mfrs., Cleveland, June 8.

All in all the future outlook on raw material supplies for the household insecticide industry is not at all bad. For the immediate future synthetics can be counted on to go a long way toward filling the gap created by army and agricultural need for the imported

natural insecticide materials. For the more distant future the household insecticide manufacturer cannot help but profit from the government program of encouraging wider production of pyrethrum and rotenone in many different parts of the world.



GROWERS in Kenya have been encouraged to plant and cultivate more pyrethrum flowers each year and statistics show steady progress both in acreage and tonnage up to last year. Then the effect of the war was felt sharply in East Africa. Labor was drained from the fields and the Colonial Government directed greater emphasis on the growth of larger food crops. Weather is always a factor and unfortunately Kenya suffered a drought this spring—the result being lower production. In a move to offset these unfavorable influences, various agencies at Washington have been collaborating with the British Raw Material Supply Commission looking toward greatly increased production, and as an incentive Kenya growers will be paid an increase in price amounting to 20 per cent. Land devoted to pyrethrum for the 1941-42 season was approximately 39,000 acres. In view of the need for food crops it seems improbable that this acreage can be increased. While pyrethrum is an excellent exportable commodity for the Kenya Colony, it is of secondary importance when the matter of food supply is concerned.

However it is a fact that the British authorities in Washington, London and Kenya fully recognize the value of pyrethrum for malarial control and are cooperating to the utmost. I suppose that any war board of strategy plans well into the future and if this is so it appears that pyrethrum must be part of this long range planning for military use in the tropics—even if an expanded production might not ultimately be needed.

In considering statistics we can figure that the normal peace time U. S. A. consumption is 13,000,000

As Viewed By

Harold Noble

S. B. Penick & Co.

pounds. In 1942, imports dropped to 8,000,000 pounds but as the saying is "stocks in the pipelines were fair." Unfortunately it was the civilian usage which felt the full impact of the diversion of pyrethrum to the military. Imports in the first five months of 1943 fell off to only a little over 3,000,000 pounds, and reports of African production indicate that during the closing seven months of 1943 but 2,300,000 pounds will actually arrive here from Kenya, Tanganyika and the Belgian Congo. A study of production figures by months emphasizes the effects of the drought, and the estimated production for the coming four months reflects the food needs situation and the loss of man power.

Those conversant with the situation frankly are very much concerned, particularly since there are no other areas of production except India and Brazil. India will need for its own consumption all the limited quantity it can raise for the next five years, maybe more. Flowers from southern Brazil would total only from a half to a million pounds—and the pyrethrins content is but half that of the African grade. It is clear therefore that the

1943 production of about 6,000,000 pounds is a 25 per cent decrease from 1942 and is only one half our normal needs—exclusive of military requirements.

Production in the United States is considered by authorities as impracticable. Labor costs are high and the experience acquired by a pyrethrum extract manufacturer in Minneapolis who has done considerable missionary work in this regard in Colorado seems to confirm this observation.

A plan for hemisphere production is under way provided an adequate supply of good quality seed is available. It is obvious, however, that any relief from these efforts can only materialize after several years work. Pyrethrum is not harvested until the second year after planting and the sweat and toil necessary to get similar production programs started on rubber, cinchona and fibre in several countries of Latin America is a well known story. The problem presents a challenge to the resourcefulness and experience of the industry, but we hope in cooperation with the several governmental agencies interested that progress can be made under these plans. Dividends could not be expected before 1947 at the earliest.

Most insecticide manufacturers have already heard of the fairly well publicized aerosol program of the army, navy and air transport command, and the U. S. Public Health Service for the control of mosquitoes. This insecticide is now standard equipment, and substantial quantities have already been used in tropical combat zones overseas. Packed under pressure, each one pound can—which is the size of an ordinary can of soup, releases a fine mist fatal to the insect it hits. In 12 minutes a dispenser will spray 150,000 cubic feet of space—equal to 240 army pup tents or fifty fortress planes—or to put it another way—would spray a room 10' high and 125' square.

The pyrethrins content of the original concentrate used was 1 per cent,—which we in the industry would term an 8 to 1 concentrate. As a conservation measure the Surgeon General's Office recently reduced the pyre-

thrins content to .8 per cent which still makes it a pretty strong concentration—6 2/3 to 1. The liquefied gas used is called "freon," and the product is activated by addition of sesame oil.

Goodhue and Sullivan of the Department of Agriculture Experiment Station at Beltsville developed this novel application, and it is the fineness of the mist which makes it so effective. It will permeate six inches of thatched roof in a native hut in the Solomons and get the mosquitoes far better than a kerosene spray, they say. I think the Department should take a bow for this notable contribution to the war effort. A description is found in *Industrial & Engineering Chemistry*, December, 1942, and the November, 1942 issue of *Soap and Sanitary Chemicals* also carried a comprehensive article on the subject. These aerosol dispensers will be used by our industry after the war and undoubtedly refillable dispensers will be manufactured in considerable volume, and pressure tanks like those now carrying oxygen will be spotted throughout the country.

Military requirements necessarily vary. If new combat zones develop in the tropics, more pyrethrum will be used; if hostilities are transferred to the northern or Arctic regions, less will be required. It is unnecessary to discuss in detail the figures assembled by the Army and Navy. It is sufficient to state they are beyond the tonnage of flowers in hand and in sight. In addition to the aerosol program, which has to do with mosquito control, the army also calls for a louse powder. The product which until recently was being manufactured contained pyrethrum and constituted a further drain on supplies already insufficient to meet other needs. (The government is understood to have shifted its program over recently to a new formula containing no pyrethrum. See story elsewhere in this issue.—EDITOR.)

This spring the army gave way to agriculture to some extent, because of the need for pyrethrum on essential crops. Now that the 1943 farm insecticide program is fairly well along, the army has again become a substantial claimant and will continue so during the balance of the year. Army

needs are apparently continuing to increase, so that from the civilian viewpoint the situation continues to deteriorate. From the agricultural viewpoint the situation is still critical and WPB continues to have the job of doing so much with so little.

FEAR we are going to experience a difficult situation on rotenone for the balance of the season. When we lost the Far East we lost 3/5th's of our rotenone material in the form of derris root. The stimulation to production of cube root in South America was unfortunately delayed in the process of transition of the purchase of this commodity from industry to the governmental agencies. Both a short term and long term program were inaugurated and they are now functioning. Early this year there was a loss by enemy action of a steamer carrying almost a million pounds of cube, and this of course aggravated the short position in the U. S. A. Recently over a hundred tons have been flown by the Army Transport Command from Brazil to LaGuardia and Floyd Bennett Fields and this material promptly passed into areas urgently in need of supplies. In the past week or two, quantities of whole root arrived in New York and New Orleans. As soon as it can be converted into powder, it likewise will pass immediately into consumption.

Early this year WPB took an inventory of stocks in the hands of mixers, distributors and dealers throughout the country. The millers had been reporting the first of each month and it was known that holdings were extremely light. The object of the survey was to determine the quantities in hand beyond the millers and their geographical location. The Department of Agriculture provided a list of crops which should be protected, together with a list of insects to be controlled. The millers also provided WPB with a record of sales for 1940-1-2 by customers, so that a fairly accurate overall picture was and is available. It was found that the north-west required a large quantity of rotenone for the protection of canners peas—so stocks were immediately directed to that area. If an area was found to be overstocked, allocations

were temporarily withheld and there continues a possibility of the movement from such areas to understocked areas. It seems desirable to explain these circumstances, since it has been necessary in certain cases for some millers to take care of the needs of customers of other millers and under the emergency normal trade channels of distribution have been temporarily disturbed. As stocks of the whole goods arrive in this country they are allocated to the various millers according to their respective import histories. Each should continue to service his customers in direct proportion to the quantities which arrive.

As to the long range production program at the source,—the BEP and the Department of Agriculture have a representative in Latin America and intensive work is being done, particularly in Peru and Brazil. At the Mayaguez Experimental Station of the D of A in Porto Rico seed stocks of derris are being raised and the seedlings are flown by air to central and South American countries to be set out where conditions for growth are favorable. The roots have to grow at least two years before they are ready for harvest, but the work is being systematically done in cooperation with the agricultural officials of the respective countries.

In regard to statistics: it is impossible to give any figures as to stocks in hand. WPB has not released these to the trade, but it is generally considered that there is just about enough material on hand to protect only those essential crops mentioned in order M133. On the encouraging side we may add that the pea crop will soon be in and we have heard of no loss from lack of rotenone. We hope we can get through the next four months with the other important crops, providing imports continue to arrive even in limited quantities.

From the best information presently available we can look for 4 1/2 to 5 million pounds of rotenone in the next 12 months. This is only 60 per cent of our requirements, but with restrictions as to use on specific essential crops, we hope we are safe in predicting the situation is well in hand. It should improve from this time on.

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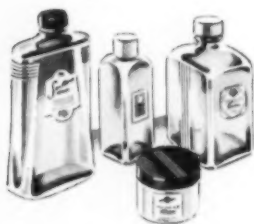


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DISINFECTANT SPECIFICATIONS

*By Dr. E. G. Klarmann**

Lehn & Fink Products Corp.

DO not know with what feelings the individual members of this Association may have greeted the appearance of the Bureau of Ships Specification 51D6 (Int.) in its original version. If I may be frank, I will say that I perused it with a sensation somewhat related to injured pride, for here was a document which, in spite of a number of shortcomings, for the first time appeared to challenge the distinctly traditional and perhaps dated procedure under which the marketing of disinfectants has been handled for years; and the said injury to my pride originated in the fact that this freshness of outlook did not have its source within our Association, but that it came from the outside.

True, for a considerable number of years, the Association was kept informed, by means of annual literature surveys of the existence of germicidal materials, which were better in various regards than those traditionally handled by us, e.g. coal tar, cresylic and pine oil disinfectants. For years, we have had discussions within our committees as well as on the floor of our conventions, on the subject of our testing methods without, however, officially departing from or materially adding to the means of delineation of the activity range of our products.

I am not unmindful of the possibility or even the probability that so revolutionary a specification as that which dared to call for a disinfectant without odor, or with a slight pleasant odor, and without any reference to its phenol coefficient, must have been brought into existence, directly or indirectly, in connection with events which compelled a departure from traditional thinking in many other fields. I am also aware that the in-

creasing diversion of such critical materials as cresol and cresylic acid into other channels of use, notably those of the plastics industry, may have furnished the first stimulus to the serious consideration of materials, other than those our industry has been dealing with right along.

Perhaps it is true that the first specifications were written, and some still are written, to fit specific products. While such practice certainly is open to question, the fact remains that it took a world war, with a concomitant serious material shortage to throw a really impressive beam of light upon the existence of newer and better raw materials, and to suggest their utilization in products with which members of this Association are concerned. And it took the same series of cataclysmic events to open our eyes to the fact that there are those potential users who are not content or even interested to know what the phenol coefficients of our respective products may be; what they want to know is their range of versatility—in other words, whether they are fit for use as disinfectants upon inanimate objects as well as antiseptics on body tissue, whether they are specific or non-specific in their anti-bacterial action, whether or not they have any effect on pathogenic fungi, whether or not they are toxic, and likely to cause a dermatitis under ordinary conditions of use, whether or not they will retain their efficacy in the presence of detergents, and whether or not they contain such ingredients as, e.g., mercury which, as is known, would impart to them the appearance of greater germicidal potency than that to which, in reality, they are entitled. All these questions go far beyond the information which we deemed to be adequate

when we drew up our own commercial standards.

The recent Army specification No. 3018C is no less advanced in its thinking. While calling for substantially the same kind of information in reference to any given product, as does the Navy specification, it tells the bidder, in addition, what organic chemicals can be employed to achieve the several effects demanded of a given disinfectant. It focuses his attention upon three classes of suitable materials, viz., the synthetic phenol derivatives, the quaternary ammonium compounds and the high-molecular alkyl amines, thus taking into consideration the most modern developments in the field of organic germicidal agents.

SO much for the positive side of these two specifications, which as you will agree, is very impressive. However, there is a negative side too, and here I should like to make but a few remarks which are based either on theoretical or on practical reasoning or both. The first of these remarks is in the nature of a caution against the apparent tendency to favor, for the formulation of disinfectants, what I should like to call "high-powered" germicidal material, i.e., material with great anti-bacterial potency, or, if you wish, with high phenol coefficient figures. It has not been uncommon recently to operate with chemicals showing their pure state, phenol coefficients of the order of 200 or over, and to recommend their practical use in concentrations directly derived from these figures. Now there is reason to believe that such comparatively high dilutions may come closer to being unreliable in their germicidal efficacy than those of corresponding anti-bacterial strength, but obtained from "lower-powered" material. It should

* Before Natl. Assn. Insecticide & Disinfectant Mfrs., Cleveland, June 8.

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be kept in mind that the "high-powered" agents probably are distinguished by a greater propensity for adsorption on particles of organic matter, which reduces their availability for attack upon the bacterial cells. Then, too, there is the question of the relative proportion of "active" germicide molecules versus the number of bacterial cells. It is obvious that a "high-powered" agent occurs in a relatively lower concentration in the effective dilution, as arrived at by means of the F.D.A. testing technic, so that there are relatively fewer "active" molecules for a given number of cells, than in the case of a "low-powered" germicide which, therefore, must be employed in a higher concentration.

One need not only theorize as to how this will affect the anti-bacterial performance; on the contrary, one may expect that in the presence of other particles for which the germicide may have some (adsorptive) affinity, e.g., in the presence of such organic matter as protein, albumin, (also pus, dejecta, etc.) the germicidal effect may be reduced to a significant degree. This means in turn that under severe practical conditions the "high-powered" germicide may or may not accomplish the job expected of it. Attention should be called in this connection to the paper by Dr. C. M. Brewer, published in the April issue of *Soap and Sanitary Chemicals* which deals with other factors affecting the consistency of results obtained with disinfectants derived from "high-powered" materials, or containing surface active agents added for the purpose of enhancement of germicidal potency.

In my opinion, the specifications discussed grant too much in respect to a permitted loss of germicidal power in the presence of organic matter, by providing for such a loss of fully 80 per cent through the agency of 10 per cent of horse serum, representing "organic matter." By contrast, disinfectants, e.g., of the Cresol Compound type do not lose anywhere near as much of their efficacy under the same conditions. Therefore, when it comes to a question of effectiveness under severe but not unusual practical conditions, i.e., in the presence of substantial quantities of organic matter,

such disinfectants derived from "lower-powered" materials of tar, petroleum or synthetic origin deserve as much consideration as ever, if not more. And yet by virtue of the potency requirements as well as those as to odor, they may be excluded from the specifications in question.

OTHER points in the Navy and Army specifications which I believe to be open to criticism, and to require correction, are as follows:

Item D-3 of the Navy specification is discriminatory in favor of disinfectants of the quaternary ammonium type, and against those of the phenolic type, since it provides for trisodium phosphate only in the test with detergents. In the presence of 1 per cent of trisodium phosphate, certain phenolic germicides suffer an impairment of germicidal power, particularly with respect to *Staph. aureus*. On the other hand, trisodium phosphate cannot be regarded as the representative detergent; if anything, soap is the more commonly employed detergent and, therefore, a requirement captioned "Use with detergents" should consider a test with soap as well. Of course, making the acceptance of a disinfectant dependent upon the satisfactory outcome of a bacteriological test with soap, would automatically eliminate quaternary ammonium compounds.

An entirely fair specification would require a statement of incompatibilities which would prevent the use in practice, e.g., of quaternary ammonium compounds with soaps, or of phenolic disinfectants with tri-sodium phosphate in concentrations of over $\frac{1}{2}$ per cent. At it stands now, paragraph D-3 discriminates, without justification, against phenolic disinfectants which can be made to work satisfactorily in the presence of such common detergents as soap or synthetic organic detergents of the sulfate or sulfonate classes.

I should like to register my objection also to the requirement E-1 applying to type "A" disinfectants. This requirement, calling for the determination of the so-called toxicity index, is also highly discriminatory in that it eliminates numerous meritorious antiseptics and germicides produced by

different houses, in many instances with long records of satisfactory clinical performance. It cannot help but render the specification unfit to serve as a basis of competitive bidding for type "A" germicides. The testing procedure involved amounts to but "one man's idea" (although possibly this idea may have been communicated to others in the particular Department), but it is far from representing or reproducing informed opinion. I feel that a Bureau of Ships Specification is not the proper means of compelling acceptance of a controversial testing method to which it is not entitled at the present time.

I believe that the Army specification No. 3018C places undue stress upon the odor of the disinfectant. Surely the requirement that the undiluted product in single strength should be substantially odorless or have a slight pleasant odor, is hardly in harmony with the professed idea of its serving as an alternate for Cresol Compound U.S.P. After all, a disinfectant is used for the destruction of micro-organisms and its odor should be of secondary importance, particularly since, as a rule, it disappears soon after application and especially so if aided by a little airing. The restriction as to odor unjustly discriminates against a whole class of valuable germicidal agents, viz., those of the cresylic type. If hospitals in peace time, during a period of abundance of all kinds of germicidal chemicals did not find it necessary to place any such restrictions upon disinfectants, it is difficult to see why an Army specification complicates an otherwise complicated situation brought about by war time restrictions of production of suitable materials.

I trust that these remarks will be of some interest to you and that they will stimulate your thinking along the lines of desirable corrections or revisions which the Washington Contact Committee will be glad to call to the attention of the proper government agencies. As a matter of fact, the Committee is now at work on the preparation of its report incorporating the pertinent ideas of its several members; of course additional suggestions from the floor would be highly welcomed.

(Turn to Page 113)

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ARMY LOUSE POWDER . . .

and

other insecticidal possibilities
of diphenyl trichloroethane from
which it is being manufactured

DIPHENYL trichloroethane is the active ingredient of the new Army louse powder. A more exact chemical designation of this product is 2,2-parachlorophenyl-1,1,1-trichloroethane, and it is indicated to be not only a specific for body lice, but an insecticidal material with a host of other possibilities. Production of the new louse powder for the Army and Navy based on diphenyl trichloroethane is reported well under way to replace the type of powder previously used, some eight or ten million two-ounce cans of which were purchased by the Army before the product was found to be of little value for the control of body lice under tropical conditions. The new louse powder is composed of 10 per cent of the diphenyl trichloroethane, a dyestuffs intermediate, with 90 per cent of pyrophyllite, an inert extender. An Army specification known as GNB-A covering the active ingredient states that it shall contain not less than 48 nor more than 51 per cent of organically bound chlorine. The material shall melt to a clear liquid at 107°C. and shall be substantially free from chloral, polymerized chloral, chlorobenzene and water. It shall be neutral in reaction and upon ignition, ash shall not exceed 0.5 per cent.

The development and procurement of the new louse powder is being treated with complete secrecy by the Surgeon General's Office of the Army, according to Washington reports, although the material has been discussed publicly by other government officials. To supply Army needs as quickly as

possible, it is understood that production of the dyestuff intermediate is being pushed to capacity at two plants of the Cincinnati Chemical Works near Cincinnati, Ohio. Bids to supply the Navy Department with four million cans of the new powder have already been filed.

Applications are reported to have been made for U. S. Patents covering the use of the material as an insecticide. These were filed in the name of the Geigy Company, New York, dyestuffs manufacturers, a part owner of the Cincinnati Chemical Works along with the Ciba Company and the Sandoz Chemical Works, both of New York. All three companies have been prominently identified for many years with dyestuffs manufacture in the U. S. and Switzerland. The research leading to the development of the insecticide applications of the intermediate was carried out in Basle, Switzerland, according to British Patents issued in September, 1942.

Although the Army and the manufacturers are wholly uncommunicative in regard to the new louse powder and the chemical upon which it is based, the Department of Agriculture is stated to have found the material to be very effective in numerous other insecticide applications, both in household and agricultural products, and has urged an increase in its production to fill the gap caused by the present shortage of insecticide raw materials used in the manufacture of household and stock sprays. It is reported that mattresses treated with a solution of diphenyl trichloro-

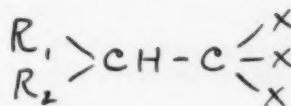
ethane will remain free from further bedbug infestation for a period of sixty days.

Many other facts regarding the insecticide applications of the chemical are brought out in the British Patents, No. 547,871 (water emulsions) and No. 547,874 (powders). These were issued in London to J. R. Geigy A. G. of Basle, Switzerland, Sept. 15, 1942. Some of the facts and claims from the patents are outlined as follows in No. 547,871:

"This invention relates to the manufacture of aqueous emulsions with improved properties for insecticidal purposes. All attempts to find artificial substances which act rapidly and with certainty on insects, while being almost or entirely odorless and which do not exert any irritating action on human beings, hitherto did not result in any such satisfactory solution as that afforded by the present invention. Thus, for example, even the use of halogenated nitriles, especially trichloroacetonitrile, has been restricted to uninhabited buildings, or to closed containers, as these halogenated compounds, even in the weakest dilution, act extremely strongly on the mucous membranes of human or animal eyes.

Example 1

It is therefore very surprising to find that aqueous emulsions containing as active insecticidal ingredient a compound of the general formula "A" as follows:



wherein X means chlorine or bromine. R₁ means an organic radical containing at least three carbon atoms, and R₂ means an organic radical with at least five carbon atoms, possess a sure deadly action on insects combined with a very weak and in no way disagreeable odor and without any irritating action

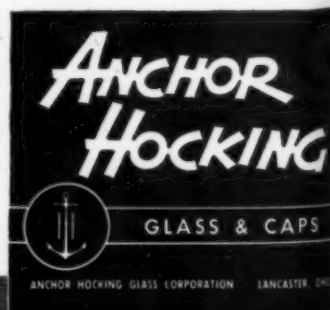


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whatsoever on the mucous membrane of the nose, eyes or throat.

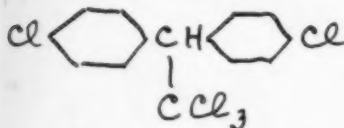
These emulsions are made by dissolving the insecticidal compound according to the above defined formula in an organic solvent, adding an emulsifying agent soluble in the solvent employed and while stirring well, pouring this mixture into water. The same result is obtained when the emulsifier is dissolved partly or wholly in the water, and the solution of the insecticidal compound in the organic solvent, containing a part or none of the emulsifier, is mixed therewith. The emulsions obtained are sprayed in usual manner.

According to a further feature of the invention there may be added to such insecticidal compositions, before or after emulsifying, other substances which are themselves, fungicidal, bactericidal or insecticidal agents and insecticidal emulsions containing such additional agents are therefore within the scope of this invention.

The invention is illustrated but not limited by the following examples, in which the parts are by weight unless otherwise stated.

Example 1

Fifteen parts of 4, 4'-dichlorodiphenyl-trichlor-ethane, melting point 103-105° C., of the formula



are dissolved in a warm mixture of 30 parts of toluene and 15 parts of methyl-hexaline. Then there are added 36 parts of sulphonated castor oil and four parts of ammonia while stirring well for some time. A clear solution is obtained. By diluting it with 50-100 times its quantity of water it forms a milky emulsion which is suitable for use as an insecticidal spray for the destruction of injurious insects such as flies, moths, plant lice, beetles and their other stages of development.

Instead of toluene other appropriate solvents may be used, such as chloroform, tetrachloroethane, butylacetate, ethylacetate or acetone.

The 4, 4' - dichloro - diphenyl-trichloroethane may be produced as follows:—

Two hundred twenty-five parts of chlorobenzene are mixed with 147 parts of chloral and the corresponding amount of chloralhydrate and then 1,000 parts of sulphuric acid monohydrate are added. Whilst stirring well the temperature rises to 60° C. and then sinks slowly down to room temperature, the mass then containing solid parts. It is poured into a great deal of water, whereupon the condensation product separates in solid form. It is well washed and crystallized from ethyl alcohol forming fine white crystals, having a weak fruit-like odor.

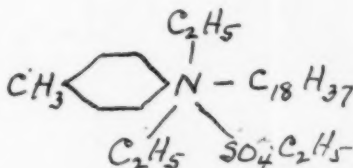
Example 2

Fifteen parts of 4, 4'-dimethyldiphenyl-trichlor-ethane are dissolved in a mixture of 30 parts of toluene and 15 parts of methyl-hexaline. After

adding 40 parts of soft soap, the whole is warmed until clear. By diluting one part of this solution with 50-100 parts of water, a stable emulsion is obtained which, by spraying destroys insects after a short time.

Example 3

Ten parts of a cation active compound, for example according to the formula



are dissolved by heating in a mixture of 25 parts of toluene and 12.5 parts of 4, 4'-dibromo-diphenyl-trichloroethane. A dark solution is obtained which can easily be diluted with water forming milky emulsions that destroy insects even in low concentrations. The same emulsion results when the cation active compound is wholly or partly added to the aqueous part of the emulsion-forming components. The dibromo compound is prepared in an analogous manner to the corresponding dichloro compound in Example 1.

Example 4

A solution of 25 parts of 4, 4'-dichloro-diphenyl-trichlor-ethane in 50 parts of toluene and 25 parts of methyl hexaline is added hot to a solution made from 100 parts of a sulphonate of a fatty alcohol and 200 parts of water. The viscous mass which solidifies in the cold, yields on dilution with water a milky emulsion possessing very strong insecticidal properties, even in very great dilution. In the same way emulsions are obtained when instead of the sulphonate of the fatty alcohol an alkyl naphthalene sulphonate, a condensation product of benzaldehyde sulphonic acid, with two mol. of tertiary butyl o-cresol, a sulphonated acylated castor oil or a castor oil sulphonated in the presence of butyl alcohol is employed.

Example 5

Five hundred parts of a 10 per cent solution of sodium alginate are mixed while vigorously stirring with a solution made by dissolving 12.5 parts of 4, 4'-diphenyl-trichlor-ethane in a mixture of 25 parts of toluene and 12.5 parts of methyl hexaline. A thick milky mass is obtained which can be diluted with water in any proportions to a milky emulsion. Instead of the alginate glue, casein or degradation products of albumin may be used in suitable concentrations, as well as mixtures of these compounds.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, as communicated to me by my foreign correspondents, I declare that what I claim is:—

1. Process for the manufacture of aqueous emulsions with improved properties for insecticidal purposes,

consisting in dissolving a compound of the general formula "A" (previously given) where X means chlorine or bromine, R₁ means an organic radical containing at least three carbon atoms, and R₂ means an organic radical with at least five carbon atoms, in an organic solvent adding thereto an emulsifying agent and pouring this mixture while thoroughly stirring into water.

2. Modification of the process according to claim 1, consisting in adding the emulsifying agent wholly or partly to the water and emulsifying therein the organic solution of the above defined insecticidal compound containing no or only a part of the emulsifying agent.

3. The production of insecticidal emulsions substantially as described with reference to any of the foregoing examples.

4. Insecticidal emulsions whenever obtained by a process hereinbefore particularly described and ascertained or by any process forming the obvious equivalent.

PATENT No. 547,874 for dry products says: This invention relates to the manufacture of solid insecticidal compositions and to their application as insect-destroying agents. All attempts to find artificial substances which act rapidly and with certainty on insects, while being almost or entirely odorless and which do not exert any irritating action on human beings, were more or less unsuccessful up to the present. Thus, for example, even the use of halogenated nitriles, especially trichloroacetonitrile, has been restricted to uninhabited dwellings or to closed containers, as these halogenated compounds even in the weakest dilution, act extremely strongly on the mucous membranes of human or animal eyes.

It is therefore very surprising to find that compounds of the general formula "A" (given before) wherein X means chlorine or bromine, R₁ means an organic radical containing at least three carbon atoms, and R₂ means an organic radical with at least five carbon atoms, admixed with solid, finely divided or porous, inert diluents or carriers form excellent insecticidal compositions. They have a sure deadly action on insects, have only a weak and in no way disagreeable odor and exert no irritating action whatsoever on the mucous membrane of the nose, eyes or throat.

According to the invention the above-mentioned active insecticidal ingredient is admixed in solid form or dissolved with a solid, finely divided or porous inert diluent or carrier. When a solvent is used, it must be expelled finally from the resulting mixture. Best effects are obtained when an inorganic natural colloid, such as bentonite or bole, is employed as a solid component. The term "solid" is not intended to exclude a powder.

According to a further feature of the invention there may be added to such insecticidal compositions other substances which are themselves fungicidal, bactericidal or insecticidal agents, and insecticidal compositions contain-



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ing such additional agents are therefore within the scope of this invention.

The invention is illustrated but not limited by the following examples, in which the parts are by weight unless otherwise stated.

Example 1

Talcum powder is steeped with a solution of five parts of p. p'-dichlorodiphenyl-trichlor-ethane in 50 parts of benzene, dried and milled in a ball mill. A fine powder is obtained suitable for application as an insecticidal powder.

The p. p'-dichloro-diphenyl-trichlor-ethane may be produced as follows:—

Two hundred twenty-five parts of chlorobenzene are mixed with 147 parts of chloral or the corresponding amount of chloralhydrate and then 1,000 parts of sulphuric acid monohydrate are added. While stirring well the temperature rises to 60° C. and then sinks slowly down to room temperature, the mass then containing solid parts. It is poured into a great deal of water, whereupon the product separates in solid form. It is well washed and crystallized from ethyl alcohol forming fine white crystals, having a weak fruit-like odor.

Example 2

Pumicestone or another natural or artificial porous mass, such as charcoal or kieselguhr, is steeped with a solution of 10 parts of p. p'-dichlorodiphenyl-trichlor-ethane in 20 parts of benzene, once or more, and dried under reduced pressure. The product thus obtained is suitable for use as a moth repelling and/or destroying agent, being very active in operation because of the large surface exposed, and having a weak, agreeable and fruit-like odor in contradistinction to the preparations previously known.

Example 3

Into a mixture of 60 parts of o-dichlorobenzene and 30 parts of chloral there are added in drops while cooling with ice, 70 parts of volume of oleum (26 per cent SO₃). The temperature must not rise above 20-30° C. The reaction mass is continued to be stirred for some time longer until the temperature, after removing the cooling bath, no longer rises, and the mass is then poured into ice water. The separated crystals are carefully washed out and by recrystallization from petroleum ether are obtained as fine white needles.

A corresponding compound from p-dichlorobenzene is produced in exactly the same way.

Similarly nitrobenzene can be caused to react with chloral by the use of oleum (26 per cent SO₃) as condensation agent.

Five parts of one of these condensation products are dissolved in 20 parts of benzene. Kieselguhr is steeped with this solution once or more and dried. The products thus obtained are suitable as moth repelling or destroying agents.

Example 4

Four hundred eighty-five parts of bole are impregnated with a solution of 15 parts of p.p-dichloro-diphenyl-

trichlor-ethane in 300 parts by volume of chloroform. The paste is dried under reduced pressure while stirring and ground finely afterwards. Five hundred parts of powder preparation are obtained which, in effect, may fully replace the rotenone preparations. Furthermore, wetting agents and adhesives may be added to this powder.

Example 5

Four hundred eighty-five parts of magnesia are mixed with a solution of 15 parts of 4, 4'-dimethyl-diphenyl-trichloro-ethane in 300 vol. parts of alcohol. The obtained paste is worked up in the above described manner. The resulting powder preparation is of good insecticidal properties.

Example 6

Thirty-six parts of diphenyl-trichloro-ethane are dissolved in 600 vol. parts of acetic acid ethyl ester, and 930 parts of bentonite are impregnated therewith. The solvent is expelled under reduced pressure and after the addition of 60 parts of a solid wetting agent and 24 parts of anhydrous sodium carbonate, the whole is finely milled in a ball mill. Afterwards the powder obtained is kneaded with a solution containing 12 parts of gelatine and 12 parts of potassium bichromate in 1200-1500 vol. parts of water. After drying under reduced pressure and finely grinding, a powder is obtained. This powder yields, when pasted up with water, a very good insect toxin in the form of a spraying mixture with excellent adhesive properties.

Example 7

Eight hundred fifty parts of calcium carbonate powder and 100 parts of bentonite are mixed with a solution of 50 parts of 4, 4'-dichlorodiphenyl-trichlor-ethane in 450 vol. parts of alcohol and the mixture is dried under reduced pressure while thoroughly stirring. The dried powder is mixed with 50 parts of casein, 22 parts of anhydrous sodium carbonate and 30 parts of a solid wetting agent. If necessary the mixture obtained is remilled. When suspended in water, the powder obtained yields a spraying preparation with good wetting and adhesive properties acting as poison of food or contact upon insects.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, as communicated to me by my foreign correspondents, I declare that what I claim is:—

1. Manufacture of solid insecticidal compositions, consisting in admixing a compound of the general formula "A" (given before) wherein X means chlorine or bromine, R₁ means an organic radical containing at least three carbon atoms, and R₂ means an organic radical with at least five carbon atoms, with a solid, finely divided or porous, inert diluent or carrier.

2. Manufacture as claimed in claim 1, wherein a solution of the insecticidal compound defined is admixed with the inert solid component, and the solvent is then expelled.

3. Manufacture as claimed in claim 1 or 2, wherein the inert solid component is an inorganic natural colloid.

4. The manufacture of an in-

secticidal composition as claimed in any of the preceding claims with the further step of adding thereto or mixing therewith one or more other substances which are fungicidal, bactericidal or insecticidal agents, and the resulting products.

5. The production of insecticidal compositions substantially as described with reference to any of the foregoing examples.

6. Insecticidal compositions consisting of a solid, finely divided or porous, inert component carrying the insecticidal compound of the general formula given in claim 1.

Tests Against Argasid Tick

The toxicity of rotenone and pyrethrum in oil against the argasid tick, *Ornithodoros moubata*, was studied. Medium petroleum oil was superior to peanut oil as a carrier for rotenone in xyleneol. Solutions of rotenone in xyleneol and oil did not deteriorate on storage in a dark room for 6 weeks. Coal-tar phenols are useful intermediate solvents for rotenone in petroleum and vegetable oils. Petroleum oils penetrate the cuticle of the tick more rapidly than vegetable oils. In medium petroleum oil, pyrethrum I is much more toxic than rotenone. G. G. Robinson. *Bull. Entomol. Research* 33, 273-81.

Water Emulsion of Pyrethrum

The successful use is reported of an aqueous emulsion of pyrethrum extract, the total cost of which was only a sixth to a third that of the kerosene spray generally used in India. Extraction of 20 pounds of Indian-grown pyrethrum flowers with 12 gallons of kerosene yielded 10 gallons of stock extract. On the day of use, 1 gallon of this extract was diluted with 3 or 7 gallons of water in the presence of an emulsifier. Rather better results were obtained with the stronger emulsion. Two emulsifiers were found satisfactory: Gardinol or sodium lauryl sulfate at the rate of 23 grams per gallon of emulsion, and Permalin EML at the rate of one-third pound per gallon. Very good results were obtained in a testing chamber and in practical use. Because of the slightly heavier droplets discharged by the nozzle of the spray-gun when water is used, it may be necessary to use slightly greater amounts of the emulsion. P. F. Russell, F. W. Knipe and T. Ramachandra Rao. *Indian Med. Gaz.* 77, 477-9.

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Market Outlook for

DISINFECTANT MATERIALS

as viewed by

Jack Varley*

Baird & McGuire, Inc.

THE raw materials used in the manufacture of disinfectants are becoming more difficult to obtain each month. A number of the tar distillers have eliminated the production of tar acid oils and instead are using equipment for turning out more critically needed coal tar solvents. Therefore a shortage of tar acid oil.

In the agricultural field there has been a greatly increased demand for stock dips. The manufacturer of these products is, therefore, caught between a steadily increasing demand for the finished product and a constantly decreasing supply of raw materials. Needless to say, all of the raw materials used in the manufacture of disinfectants are on allocation (except pine oil). In the coal tar field priority ratings are useful when they can be obtained, but if the material isn't being produced there isn't a priority rating high enough to be of any use.

Touching briefly on the imported cresylic acid situation, shipments are still coming through in limited quantities at the established ceiling prices. Inventories of imported cresylic acid have to be declared by the importer, however, and are subject to allocation by the WPB. In other words, when we bring a shipment of acid from England into our warehouse we must ask the WPB for permission to turn any or all of it into disinfectant. The shipment may be allocated to someone else in another field of industry before it ever reaches our plant, and of

course, we can never bank 100 per cent on receiving a shipment intact—even though it does make a safe trip across the ocean.

Pine oil, for the past six months, has been rather spotty insofar as supply is concerned. Prices have been fairly uniform since ceilings were established. Please keep in mind that I am speaking more from the buyer's viewpoint rather than the producer's. The large pine oil producers are apparently able to take care of their regular trade and are not too anxious for new business, whereas the smaller pine oil suppliers' production has been rather ir-

regular. This situation has naturally resulted in a firm market as far as the sale of pine oil disinfectants is concerned.

I understand the output of synthetic phenols has been steadily increasing, but on the other hand the Armed Forces have been demanding more and still more germicide manufactured from these materials. There is little, if any, synthetic phenol available for civilian use, and from the present outlook even larger quantities of germicide are going to be required if the War continues for another year or more.

IMPORTED CRESYLIC ACID

By L. A. Schlueter

Coal Tar Products Division

War Production Board

Washington, D. C.

THE raw materials under control of my group in which you are interested are phenol, cresol, cresylic acid, tar acid oil, naphthalene, and pyridine. All of these products are in the varying ranges of supply and in none is there an over-supply; several are in very short supply for fulfilling important military requirements.

Because of the nature of these coal tar products, with their many grades and diversified uses, it became apparent very early that the only satisfactory control and the only sure way of supplying the most important war uses was by complete allocation. In this manner it is possible to direct the distribution to most important channels and direct the production of the grades best suited for the usages allowed. Any of you acquainted with

the tar acids and their overlapping specifications and blends, must realize that if care is not exercised, it is a very easy matter to get distribution very much out of balance. This might result in using up all of some of the parts of the acids and having others left over as unusable scrap. It becomes a problem of laying out a pattern which makes the whole available for most important uses and largest coverage. If caution is not used, an allocation of 5,000 pounds of a certain close range or special fraction might destroy the value of ten times this amount of acids. I do not wish to bore you with problems that are strictly our own headaches but I do wish to point out the problems involved in making allocations of disinfectant raw materials so that you may bear with us

* Before Natl. Assn. Ins. & Disf. Mfrs., Cleveland, June 8.



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FEDERAL NO. 70 RESTORER

This product provides a time saving system of cleaning a floor and restoring its beauty in record time. It is non-slippery—ideal for school rooms, offices, factories on most types of floor surface—linoleum, cement or sealed wood.

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The viscosity of Tricol has made this product a most interesting substitute in formulae in which Glycerine was added as a carrying agent. A trial will prove its merits in your particular formula. Tricol is not offered for any medicinal value.

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Essential Oils — Perfume Materials — Aromatics

it some of the things we do may seem out of line to you.

To give you some idea of the position of various grades of tar acids:

PHENOL: Available for war purposes only—none available for non-essential uses. This because (even if capacity is available) production of synthetic phenol must compete with the synthetic rubber and aviation gasoline programs for raw materials.

CRESOL AND CRESYLIC ACID: Available for war purposes only—and only then where a substitute or alternate is not available. U.S.P. Cresol is not available for disinfectants as alternates and substitutes are available.

TAR ACID OILS: are in a favorable position, but not in excess supply.

PETROLEUM: fair supply for all needs. Low boiling not available for disinfectants.

PYRIDINE: may not be of too general interest to your people. However, small amounts are being used for disinfectants. The supply and requirements of pyridine are now just about in balance, with good prospects of a future shortage; additional requirements are not encouraged and other bases, such as Alpha Pinolene, Beta Gamma Piccolene and Lutidines should be considered in its place for new and additional disinfectant requirements.

NAPHTHALENE: Naphthalene supply and demand are fairly well in balance. However, additional quantities could be absorbed for moth

prevention control. Larger quantities of naphthalene are available for moth prevention than during past years, but the armed forces are using large amounts, leaving less for civilian consumption than in previous years.

It might be well to say here that about six months ago our government started negotiations with the United Kingdom for the importation of cresols and cresylics and some quantities of crude tar acids. Negotiations were handled on this side by representatives of Board of Economic Warfare, Office of Defense Supplies, OPA and WPB. Only A D F type will be available for disinfectants. The first large shipment is on the way now—distribution will be made when the material arrives. The Board of Economic Warfare does the purchasing, and Defense Supplies handle the distribution under direction of WPB Order M-27.

In applying for these imported stocks, users should fill out form PD-600, as for any other tar acids. Applications should be filed by the 15th of the month preceding the month in which delivery of the acids are requested. In the case of the imported acids, it is better policy to make allocation of the acids after the arrival in this country, and inasmuch as there will be several arrivals of acids during the month, there will be several allocations of this material made, with the result that in most instances users will not receive word concerning their allocation of imported acids until some time after the original allocations of domestic acids have been made.

PETROLEUM TYPE CRESYLYCS

By B. W. Conn

Shell Oil Co.

THE original Shell cresylic acid from petroleum, termed 2000 grade, had a distillation range of approximately 200 to 230° C., contained a small quantity of phenol, larger quantities of the three cresols, the remaining portion consisting of xylenols and ethyl phenol. Shell 4020 and 9035

cresylic acids followed shortly thereafter. The former had a boiling range of approximately 220 to 240° C. and contained a mixture of xylenols and C₃ and C₄ alkyl phenols. The "9035" grade, had a boiling range of approximately 235 to 285° C. and consisted primarily of C₄ alkyl phenols. It was

discovered that the 4020 and 9035 grades had properties which were of value in the manufacture of disinfectants, some types of synthetic resins and cleaners. As time went on and experience was gained, the products were improved in color and odor, the sulfur content was reduced and production was increased.

The change in the Commercial Standards for soluble and emulsifiable disinfectants sponsored by the N.A.I. D.M. assisted materially in the recognition of the value of these petroleum phenolics and the war has added a further incentive for new consumers to investigate the value of these products.

At present output is moving to consumers nearly as rapidly as produced.

The new Shell cresylic acids of interest to disinfectant manufacturers are called 4020A and 9035A cresylic acids, produced in one of Shell's California plants.
(Turn to Page 117)

PINE OIL

By Prior Thompson

Hercules Powder Co.

THE supply position on both natural and synthetic pine oil is adequate to meet a demand for 50,000,000 pounds during 1943. Earlier production figures indicated that 60,000,000 pounds would be available. Labor shortages in the wood procurement program did not permit a realization of this earlier forecast.

This revised production can be distributed equitably to all industries so that everyone will have enough pine oil to meet current demands. Some industries will curtail their consumption of pine oil because of the scarcity of emulsifiers (vegetable oil and animal oil soaps). In these cases, it will be advisable to investigate the adaptation of resin soaps as emulsifiers.

We feel that any abnormal demand in any industry will be offset by a corresponding reduction in another. Supply and demand will be in balance through 1943; 1944 production will start the new year with a 10,000,000-pound stock pile.

Reilly XYLENOLS

Low boiling, high boiling and
symmetrical Xylenols — in tank
cars and drums from Indianapolis
and Newark.



... and other

COAL TAR PRODUCTS

*For the Soap and
Disinfectant Industry*

★ **NAPHTHALENE**—Crude and refined prime white Naphthalene, in chipped, crystal, flake and powdered form. In 250-lb. barrels and 50-lb. fiber drums.

★ **CRESYLIC ACIDS**—Reilly produces the entire range of Cresylic Acids—in standard grades or to buyers' specifications.

★ **CRESOLS**—U. S. P., Meta Para, Ortho and special fractions—to all specifications. In drums or tank car quantities from Indianapolis and Newark.

★ **TAR ACID OILS**—In all grades, from 10% to 75% tar acid content, or of specified phenol coefficient, carefully blended. In 55-gal. drums and tank cars from Chicago and Newark.

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INSECTICIDES After the War . . .

By John Powell*

John Powell & Company

BEFORE opening this discussion, let me state that if ever opportunity was prepared to knock at the door of the insecticide industry, it stands there today ready to knock when the war is over! The manner in which this industry meets its golden opportunity will to a great extent determine its future over the next ten or fifteen years.

The view which anyone takes of insecticides after the war depends a great deal on the amount of imagination he has and on how much genuine knowledge of insecticide marketing he possesses. Without leaving our knowledge of the facts too far behind, perhaps we can draw on our imaginations sufficiently, and thus stimulate the minds and activities of the industry.

I think that anyone who has given thought to the subject will agree that the prospects for the insecticide industry after the war ought to be good. As a matter of fact, they might be unless we get away from the type of thinking that has guided the policies of many firms in the past.

We as an industry must be prepared to take advantage of the opportunities which will probably exist, because, when this war is over, at least six million of our fighting men are going to return to their homes very much insect-conscious. The history of the war will show that the soldier's battle was as much against bugs as it was against the enemy, and on many occasions the bugs had the upper hand. In the reminiscences of our fighting soldiers in Tunisia, the South Pacific, Australia, and those in American camps and barracks as well, insects will loom large. As I see it, one job of the insecticide industry after the war will

be to keep these men insect-conscious and, through intelligent advertising, encourage their spreading the doctrine of insect control in their home communities and keeping alive this well justified fear of insects. In the last war, it was body lice or "cooties," and in this war it is not only cooties, but roaches, ants, bedbugs, flies and mosquitoes in great variety as well, most of them carriers of disease, as shown, for example, by the high malaria rate among our fighting men in tropical countries.

Since obviously the industry will have a wide field in which to work, it is interesting to contemplate what direction new developments of insecticides will take. There will unquestionably be many new synthetic products waiting to be tried out and tested. Others now only in the chemist's laboratory will undoubtedly follow not long afterward. Despite all this activity, there is still no product, nor is there any product in prospect that we know of now, which by itself will take the full place of pyrethrum. Some scientists feel that it is practically an impossible job to find a single insecticidal compound having all the advantages of pyrethrum without some offsetting disadvantages.

The outstanding insecticide development of this war thus far is the aerosol package, with which I believe most of you are familiar. There is no question but that the aerosol type of insecticide presents numerous possibilities, but it is rather easy to become too enthusiastic and to oversell oneself on these possibilities. Unquestionably improvements will be made in the container, and in the effectiveness of aerosol mists against insects other than flies and mosquitoes. The cost of the package obviously must be reduced

greatly and a means must be found to make the product as effective against crawling insects as it apparently is against flying insects.

Also to be considered is the fact that after the war we will undoubtedly have better sprayers, and it is not beyond reasonable probability to assume that we will have low cost mass production of electric sprayers, which can be put in the hands of the average consumer at low cost for the efficient application of liquid insecticides. Right now, from the standpoint of economy, this latter type of application will unquestionably have the advantage over the aerosol package, but it is a bold man who will underrate the ingenuity of our scientists and package manufacturers.

Everyone of us here will agree that we came into this war without adequate means of applying our insecticides, and we also know that for many years the absence of proper sprayers has held back the growth of the industry. In this connection, manufacturers are going to have to change their approach to the sprayer problem completely. They have heretofore been willing to buy the cheapest sprayer they could find, since their theory was that they were not in the sprayer business, and sold them at cost merely as a service to the users of their sprayer. Obviously, this approach is all wrong, because if a product is to reach its maximum growth, the maker must concern himself with the most efficient means and method of application.

More about sprayers, — *better* hand sprayers are *vital*. Will manufacturers of insecticides *after the war* have sense enough to demand a minimum 25c or 30c sprayer or will the 10c tin "squirt gun" again flourish, solely because it is cheap? This is a

*Address before the 29th annual mid-year meeting of the Natl. Assn. of Insecticide & Disinfectant Mfrs., Cleveland, O., June 8, 1943.

PINE OIL DISINFECTANTS

COAL TAR DISINFECTANTS

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- ✓ DEFINITE GERMICIDAL VALUE

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ENGLAND

real after-the-war problem for the insecticide industry,—to eliminate permanently the cheap junky sprayer!

No one denies, I am sure, that the insecticide industry holds tremendous possibilities for growth, if a reasonable amount of common sense is used and if in recognizing the possibilities, we do something to bring about their realization. Everyone agrees that household sprays and stock sprays will not for many years reach their maximum use, and in the stock spray field manufacturers will undoubtedly come to realize that they are going to have to sell to the farmer something more than merely an insecticide,—they are going to have to sell the idea of farm sanitation, insects as disease carriers and destroyers of produce.

Perhaps we may get, to the point where the farmer might be induced to handle his manure problem so that it will not continue to be a source of prolific fly breeding. It may not be possible to get the farmer to remove his manure pile from the front door of the barn, but we may be able to induce him to spray this manure pile frequently to keep down insect infestation.

We should endeavor to instill in the public mind that first of all it is no crime to have bugs in the home,—but it is a crime to *keep* them. Secondly, the ideal way to use insecticides is as you clean, because you cannot have a clean home where insects are present. In mosquito infested areas, regular spraying of screens should be stressed, as well as the value of our insecticides as repellents outdoors, because this phase of insecticide use will undoubtedly receive much attention after the war. Those of you who live in rural areas will fully appreciate the importance of this.

We are going to have to put over the idea that it is very expensive to tolerate insects in the home, be they bed bugs, cockroaches, flies, fleas, mosquitoes, or moths. It costs money in damaged food and clothes, in ill health and so forth. It may cost more than peace of mind when one does not get a good night's sleep.

What about prices of insecticides after the war? Unquestionably this is one of the most important aspects of the problem and will receive

the consideration of every manufacturer, I feel sure. The insecticide industry found itself at the start of the war with extremely low prices for its

DELOUSING THROUGH DRYCLEANING

A study of drycleaning for purposes of delousing infested garments has recently been completed by J. L. Staubly and A. C. Lloyd of the National Association of Dyers and Cleaners. Findings will be reported in an article in our August issue. The investigators found that any plant equipped with a hot air tumbler can do a satisfactory job of disinfection without damaging the garments in any way.

products, and it is important to consider whether in some cases these prices were not arrived at without too much thought being given to the value of the product. In other words, were manufacturers putting out a product to fit the price or were they attempting to put out the very best possible insecticide at the lowest price?

All of our economists seem to agree that following a slight lapse after the war, this country and the world will enjoy good times, with the majority of the people employed in one aspect or another of rebuilding the world. Insect control will of necessity be a major problem associated with this rehabilitation. All told, the future is bright,—and what we do with it rests in the hands of the industry. ★★

Mothproofing Furs

The furs are immersed for 16-48 hours in one-half-10 per cent formaldehyde solution of pH more acid than 2.5 and a saline concentration of 20 per cent to prevent swelling of the untanned skin. The added salts may be sodium, potassium, magnesium, aluminum or ammonium sulfates or chlorides or calcium chloride, while sulfuric acid, hydrochloric, acetic etc., are the acids present. Tanning and dyeing may be carried out before treatment. The excess of treatment liquor can be removed without dilution by centrifuging, the fur being fat-liquored,

dried, and cleaned with a solid material such as sawdust. D. Traill, A. McLean, and Imperial Chem. Industries, Ltd. British Patent No. 548,061.

Fungicides for Use in Floors

Fungicidal compositions suitable for use on floors of gymnasiums, locker rooms, etc., contain phenoxyacetic acid with a water-soluble inorganic salt such as sodium chloride or magnesium sulfate. The proportion of the salt greatly exceeds that of the phenoxyacetic acid. The salt enhances the fungicidal properties of the acid when the composition is dissolved in water to form a solution containing at least 2.5 per cent of the salt. Clarence L. Weirich, to The C. B. Dolge Co. U. S. Patent No. 2,299,604.

Mosquito Larvicides

No single grade of oil prepared from crude petroleum is a satisfactory mosquito larvicide; the final product is usually a blend of several petroleum constituents. Directions are given for blending petroleum larvicides. A toxicity test is also described in detail. W. A. L. David. *Bull. Entomol. Research* 33, 195-203.

Control of Flies

Repellents containing pyrethrins, dodecyl thiocyanate, butylcarbitol thiocyanate, in petroleum oil or olive oil, are described for biting flies. Sprays containing pyrethrins or thiocyanates are proposed for cluster flies and flies in towns. Spraying the breeding sites of the latter every 7-10 days with a 2 per cent emulsion of neutral high-boiling tar of grade A acts as a repellent for the female flies and kills many fly eggs. H. G. H. Kearns. *Ann. Applied Biol.* 29, 310-13.

DISINFECTANT SPECIFICATIONS

(From Page 99)

come. But beyond this it is the purpose of this presentation to call your attention to new developments which may or probably will have a far-reaching effect upon the whole disinfectant picture after the war. Wise is the man who today realizes the impending changes and who makes the necessary preparations to meet the coming new situation. ★★

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IS UNAVAILABLE

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ROTENONE
goes to WAR!

Recognizing its strategic value in the control of certain insects and pests, the use of Rotenone has been restricted to the needs of the Armed Forces, the protection of a limited number of vital agricultural crops, and the control of warble fly on cattle.

Many peace-time users of Rotenone for other purposes have had to readjust their plans to get along without Rotenone, and have done this willingly, appreciating that Rotenone has an important job to do in the winning of the war.

Those who need Rotenone for the specific purposes for which it is now reserved will be glad to know that we have still available supplies of **ROTENONE** and **ROTENONE RESINS** and from time to time expect to have **ROTENONE POWDERS**.

DERRIS, INC.

Specialists In Rotenone Roots and Rotenone Products

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NEW YORK, N. Y.

NEWS

Watkins Moves Burnette

L. C. Burnette for the past two years connected with the Columbus office of the J. R. Watkins Co., Winona, Minn., has been promoted to manager of the Cleveland office, including two distributing branches. Mr. Burnette has been with Watkins for ten years and prior to working at Columbus was attached to the Charleston and Wheeling, W. Va., branches.

W. I. Sutton, of West, Dies

William I. Sutton, Jr., 59, of East Orange, N. J., an inspector for West Disinfecting Co., Long Island City, N. Y., collapsed in the street and died in Elizabeth, N. J., June 12. A native of Toronto, Canada, Mr. Sutton leaves his father, William I. Sutton, a brother, and five sisters.

Davis has recently been an account executive with the Aitkin-Kynett Co., Philadelphia advertising agency, where



GEORGE F. DAVIS

he handled the Hollingshead account. Prior to that he was with Curtis Publishing Co. for a number of years.

Rodda Named Asst. to Moyer

John Rodda, formerly connected with McCormick & Co., Baltimore, has just been named assistant chief of the Chemical Section, Insecticide & Fungicide Unit, War Production Board. He will serve in Washington as assistant to Warren Moyer, chief of the section.

Four Joyces in Service

Four sons of Robert F. Joyce of Derris, Inc., New York, are now members of the United States armed forces, the youngest, Donald G. Joyce, having been called to active duty as a U. S. Naval Aviation Cadet last month. The Joyce boys are represented in all three branches of the services, Army, Navy and Marine Corps. Corporal Robert F. Joyce, Jr., the oldest, who has been in the anti-aircraft division of the Army Coast Artillery for the past two years has been in Africa since November, 1942.

Ensign Edward I. Joyce, Navy Fighter Pilot, is now with his squadron awaiting carrier assignment. He was commissioned and awarded his wings on January 8, 1943. Private First-Class Richard J. Joyce is attached to the advanced Telephone Electric School of the U. S. Marine Corps at New River, N. C. Robert Joyce, the father, has been active in the affairs of the National Association of Insecticide & Disinfectant Manufacturers, and is widely known in the American insecticide industry.

Professional Exterminators Meet

Members of the Professional Exterminators Association met at the Hotel Commodore, New York, June 7, for their final meeting until the Fall. The principal speaker was Dr. Ernest Mills of the U. S. Fish and Wildlife Service. He exhibited a new ultraviolet bulb for use by pest control operators in detecting the presence of rats and mice, and also gave his audience some new formulas on zinc phosphide.

Charles Fremd Dies

Charles Fremd of New Dorp, Staten Island, N. Y., sixty-six years old, died in Orlando, Fla., June 2. Mr. Fremd was at one time the president of Charles Fremd Laboratories on Staten Island which manufactured insecticides based on formulas which he developed. He had been in retirement since 1935, making his winter home in Florida. Surviving are his wife, two daughters and five sons.

Frohring Amer. Home Director

William O. Frohring has been elected a director of American Home Products Corp. to succeed Junius Parker who resigned. Mr. Frohring is chairman of the S. M. A. Corporation, a subsidiary of American Home Products.

Cenol Co. Considers Expansion

The Cenol Co., 4205 N. Pulaski Road, Chicago, is considering plans for erection of a new plant, more adequate in size to handle production of its line of household products and drug sundries, for which demand is reported to have been growing.

O.P.A. Insecticide Committee

O.P.A. which is organizing industry advisory committees similar to those of W.P.B. which have been functioning during the past year, is now reported investigating the possibilities of the formation of an O.P.A. Insecticide and Disinfectant Industry Advisory Committee. It is understood that the new committee will have among its personnel some of the present members of the W.P.B. committee particularly those qualified to advise in matters having to do with price control of small package retail insecticides, disinfectants, moth products, etc.

Davis Hollingshead Sales Mgr.

The appointment of George F. Davis as sales manager of the industrial division of R. M. Hollingshead Corp., Camden, N. J., has just been announced by Stewart Hollingshead, vice-president of the company. Mr. Davis succeeds William Plowfield whose resignation to take a position with Hodson Corp. was announced by Soap and Sanitary Chemicals last month. Mr.

Warn Dealers on Stove Polish

Dealer stocks of stove polishes of several different types were confiscated by fire department inspectors in Newark, N. J., last month, and a group of wholesalers and retailers were warned that city ordinances were being violated in handling combustible and inflammable products. The inspectors identified three of the products seized, all of low flash point, as "Blackcat," "Blackene" and "Black Silk" which were said to contain, respectively, naphtha, benzine and gasoline. Numerous fires have occurred in Newark recently as a result of use of combustible stove polishes, it was charged. No legal action was taken against the sellers upon their agreement not to handle further the sale of products of this type.

McCormick Adds New Lines

McCormick & Co., Baltimore drug house, is said to have augmented its regular line of flavoring extracts, spices, and drug and food products with a line of household remedies such as aspirin, castor oil, epsom salts, mercurochrome, etc. These items will be sold through regular food retail outlets, according to the plans of the company.

Broadcast Flood Warnings

Lehn & Fink Products Corp., during the recent floods which affected wide sections of the middle west, broadcast a series of warnings from radio stations in the flooded areas warning of the danger of infection from mud and filth left in the wake of receding flood waters. Prompt and effective use of disinfectants was prescribed as a precautionary measure.

Chem. Exposition Dec. 6-11

Insight into industry's part in the war and post-war world may be gained at the 19th Exposition of Chemical Industries, judging by types of exhibits planned. The Exposition, which will be held from December 6 to 11, at Madison Square Garden, New York, will be somewhat limited in size due to space restrictions and impossibility of showing heavy machinery.



Insecticide Men Fish

A group of insecticide fishermen in the Canadian north woods who did not catch too many fish, but who had ample opportunity to test the efficacy of various insecticides and repellents against black flies and mosquitoes . . . the group spent several days, June 11 to 15, at the camp of Wade Morrow, treasurer and general manager of Canada Rex Spray of Brighton, Ontario. The camp is located on Trout Lake about 30 miles north of

Havelock, Ont. The fishermen (?) shown are, left to right, John P. Grant of Dunn Sales, Ltd., Toronto, insecticide sales agents in Canada including Fly-Tox and Black Leaf 40; David W. Lynch of John Powell & Co., Chicago, about to become a soldier; Wade Morrow, head man of the fishing expedition; John Powell of John Powell & Co., New York, who caught 0 fish, and Dr. Alfred Weed of the same company. Pools for first, largest and most fish were won by Mr. Grant.

Change Ethanolamine Allocation

Triethanolamine, much used in the manufacture of waxes and polishes, was removed from allocation by WPB Allocation Order M-275 issued May 25. The same order placed diethanolamine under allocation on and after July 1, although the filling of small orders of five gallons or less will still be permitted without specific WPB authorization.

May Restrict Glass Containers

Restrictions on the use of glass containers by manufacturers of beverages, toilet goods and chemical specialties have been recommended by the Glass Container Manufacturers Industry Advisory Committee in a meeting with WPB officials, to help assure adequate supplies for users in the drug and food fields. Demand for glass packages was said currently to be approximately 20 per cent in excess of productive capacity. A system of quotas was recommended for the above mentioned users, with users of glass containers for

packing medicines and foods to be free from restrictions. The demand for glass containers, has of course, been stimulated by the widespread shift of many packagers from previous metal packages.

J. C. F. O'Dowd Dies

J. C. F. O'Dowd, 50, city salesman for S. B. Penick & Co., New York, died June 14, after a brief illness which was said to have been brought on by the death of his wife. Mr. O'Dowd, who had been with Penick since 1935, is survived by a brother and married sister.

Two Chews Serving

Robert Chew, son of John A. Chew, head of the New York chemical firm bearing his name, was recently made a first lieutenant in the Army Field Artillery at Camp Adair, Oregon. Robert's brother, Peter, is somewhere in the Middle East with the American Field Service.

A.I.F.A. Meets July 22-23

The tenth annual meeting of the Agricultural Insecticide & Fungicide Association will be held July 22-23 at the Essex & Sussex Hotel, Spring Lake, N. J. In addition to the regular election of officers, the meeting will feature investigation of current problems facing the industry. The problem of getting ample supplies for 1944 will come up for discussion. Government speakers have been invited to attend the meeting and, although program details have not been completed, several Washington representatives are being asked to address the group. The wartime policy of no entertainment is being continued.

Free French Call Lageat

Jean Lageat, managing director of Antoine Chiris Co., New York, flew to London June 7 to serve with the Free French there. It is not known when he will return. Mr. Lageat came to New York in October, 1939. He was a former general manager of Antoine Chiris Co., Grasse, France, in which position his contacts and duties in handling the firm's interests in several French colonies provides experience which it is thought will be helpful in his prospective services to the Free French.

Rubberset to Handle Peterman Line

Sales and manufacture of the products of William Peterman, Inc., subsidiary of Bristol-Myers Co., are now handled by the Rubberset Co., Newark, N. J., another subsidiary, now engaged in the manufacture of paint, shaving and hair brushes. The new arrangement became effective July 1. Peterman products, including "Ant Food," "Roach Food" and "Discovery," will be manufactured in a new Newark factory. Sales of these products were formerly handled by Bristol-Myers Co. Robert H. Seltzer of the Rubberset Co., will be in charge of sales and advertising for the Peterman and Rubberset lines.

Begin Sprayer Manufacture

Probably some one million insecticide hand sprayers up to the one quart size will be turned out in the

near future by three or four sprayer manufacturers to augment the dwindling supply on the American market. W.P.B. approval has been granted for release of the metal and for manufacture to begin.

Niagara Alkali Gets "E"

Niagara Alkali Co., New York, has recently been awarded the Army-Navy "E". Niagara Alkali Co. produces liquid chlorine, caustic soda, caustic potash, paradichlorobenzene, etc.

E. E. Edwards Dies

E. E. Edwards, president of the Indianapolis Exterminator Co., Indianapolis, Ind., died May 29.

PETROLEUM TYPE CRESYLICS

(From Page 109)

fornia refineries. Production of any one grade is not large and it is therefore quite a problem, under allocation, to schedule movements smoothly to customers and warehouses so that deliveries can be made promptly as quantities are allocated.

At the present time our California plant is working at capacity to produce Shell cresylic acids from both our own raw stocks and additional stocks obtained from other petroleum refineries. One of our mid-continent refineries is producing a type of crude tar acid which for lack of refining equipment is being further refined by another producer.★★

V. P. Adams, Inc., Jamaica, N. Y., manufacturers of sanitary products, recently occupied new and larger quarters at 139-41 Queens Boulevard, pictured below. The company which has just celebrated its tenth anniversary, was formerly located at 146 Archer Ave.



Await Container Restrictions

An order restricting the quantity of glass containers which may be used by packers of a number of products, including insecticides, disinfectants, chemical specialties, etc., is expected to be issued very shortly by WPB. Advance indications are that the quantity of containers will be reduced to 80% of the total used in a selected three-month period during 1942. At the same time there are indications that restrictions on use of steel drums are going to be eased somewhat for class B users who may now be permitted to buy and use second hand drums. Latest reports on the pyrethrum outlook are to the effect that for the balance of the year available supplies will be restricted to use by the military alone. No additional pyrethrum is to be made available for household or agricultural insecticides, or other civilian use.

Unico Products Moves

Unico Products Corp., formerly of 510 Hudson Street, has moved to new and larger quarters at 547 Hudson Street, New York. The firm features a complete line of sanitary supplies and cleaning materials.

Lower Ethyleneglycol Price

The current market price of 9c per pound for ethyleneglycol has just been established by the OPA as the maximum price on producers' sales.

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A safe and effective cleaner for GARAGES, DRIVEWAYS, BASEMENTS, BUS AND TRUCK TERMINALS, AIRPORTS, AND ALL UNPAINTED CEMENT SURFACES.

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William Beuttner addresses members of Chicago Pest Control Association on recent mid-west trip.

Beuttner Reports on Trip

William O. Beuttner, secretary of the National Pest Control Association, who recently returned from a trip through the midwest, reports that meetings he attended of Pest Control Operators in Chicago, June 5; Detroit, June 6, and Cleveland, June 7 were all well attended. Judging by the length of the meetings, which lasted two and three hours, Mr. Beuttner said the interest in problems facing operators today was obviously at a high pitch.

Army Raises Florasynth Men

The two Illes brothers—Robert and George—formerly of the Dallas, Texas, branch of Florasynth Labs., Inc., have been raised to the rank of first lieutenant in the armed forces. George is a naval lieutenant stationed at the U. S. Naval Air Station, Jacksonville, Florida; Robert earned his silver bar at Cochran Field in Macon, Georgia.

Abbott Aromatic Distributors

Appointment of S. L. Abbot Co., 800 Santa Fe Avenue, Los Angeles, California, as California representatives and distributors in the California territory for Aromatic Products Co., New York, was announced recently by Michael Lemmermeyer, Aromatic head.

Prof. Flint, Entomologist, Dies

Prof. Wesley P. Flint, entomologist of the Illinois State Natural History Survey, died from a sudden heart attack on June 3 at his Urbana, Ill., home. Known internationally for his

work in curtailment of European corn borer, Dr. Flint was 60 years old and had been with the Illinois Survey since 1907.

Mosquitoes Plague Defense

The insecticide industry's lack of adequate supplies of pyrethrum is being brought vividly home to war industry workers engaged in the big armament plants located in Chicago's west side suburban district. Notorious for years as the breeding place of mosquitoes, this area has become almost untenable in recent weeks. Conditions are said to be especially unendurable for the night shifts in the factories. Unless energetically dealt with, said J. Lyell Clarke, sanitary engineer with the Des Plaines Valley Mosquito Abatement district, production at the war plants will be seriously curtailed.

Air-Borne Germ Killer

A possible solution to the air conditioning industry's problem of controlling air-borne bacteria was announced recently by Dr. Oswald H. Robertson, professor of medicine at the University of Chicago. This new chemical solution is described as an anti-sneeze mixture which, when sprayed into a room will kill pneumonia and other germs. Distribution of the solution remains a problem, but the use of an air-conditioning system is reported to be the simplest way. "Air-borne germs are carried on microscopic particles of water floating in the air," Dr. Robertson said. "The solution attaches itself to these droplets of water and smothers the germs." As

most of the air-borne infections are spread indoors by coughing and sneezing, he explained, the solution can be used to sterilize the air of public buildings as well as hospitals, nurseries, barracks, and other dwellings. The cost is low, he said, and a pound is sufficient to keep an 800-cubic foot room germ-free for 90 days.

Albert D. Penick to Wed

Announcement of the engagement of H. Virginia Shaw to Albert Dorset Penick, son of Mr. and Mrs. S. Barksdale Penick of S. B. Penick Co., New York, was made early last month. Mr. Penick was graduated from the University of Virginia in 1928. The wedding is scheduled to take place in the early fall.

Dow Plans for Post-War

Dow Chemical Co., Midland, Mich., has just announced establishment of a new division which will concentrate on the development of new chemical products for use during and after the war. D. K. Ballman will head the new division which will be staffed by technical experts selected for their close knowledge of the Dow line of 500 chemical products, as well as their familiarity with the needs of chemical consuming industries. Mr. Ballman brings to his new position the experience of eight years of work with the Dow company in product development and technical service work.

Automatic Rat Trap

Rochester Automatic Trap Co., Rochester, N. Y., is reported to have developed a rat trap with catches and electrocutes the rat, deposits the body in a disposal box and then resets itself.

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Aerosol Bactericides

Recognition that air-borne organisms may play a very important role in the spread of disease, especially respiratory infections such as influenza, has led to increased interest in methods for sterilizing air in schools, theaters, trains, barracks, air-raid shelters, hospital wards, etc. It has been found that aerosols in the form of extremely fine dispersions of sterilizing agents are most effective in air of intermediate humidity. High humidity neutralizes, and low humidity masks the disinfecting action of some agents.

Many powerful bactericides have proven disappointing when tried for this purpose. At present three groups of substances are being investigated: (1) sodium hypochlorite, (2) resorcinol and hexylresorcinol dissolved in propylene glycol or glycerine, and (3) higher alcohols, especially propylene glycol.

Hypochlorite is less effective than some substances and also has the disadvantages of odor, irritation of mucous membranes, and corrosiveness to metals. However hypochlorite is cheap, has deodorizing properties and is reasonably effective. Bacteria from sneezing have been killed in 3-4 minutes by a spray of a 1 per cent solution of sodium hypochlorite, using a concentration of 2.1 cc. per 1,000 cubic feet of air.

The most effective solution appears to be a 10 per cent hexylresorcinol solution in propylene glycol, containing 0.05 per cent of potassium lauryl sulfate. Such germicidal mixtures will penetrate cloth barriers and act on bacteria within.

Propylene glycol alone gives an effective bactericidal aerosol. With *Staphylococcus albus* as the test organism, it was found that one part by weight of propylene glycol in two million volumes of air produced complete sterilization of an atmosphere containing as many as 200,000 bacteria per cubic liter of air. Subsequently a variety of other organisms were observed to be killed rapidly by the aerosol. Addition of glycerine prolonged the germicidal action of the propylene glycol aerosol. Experiments with mice showed that the animals could be protected against influenza virus spray by

the aerosol. Other experiments in a children's ward showed it to be effective in reducing the incidence of respiratory infections. Much greater use of germicidal aerosols is indicated for the future as a protective health and sanitary measure. M. A. Lesser. *Drug & Cosmetic Ind.* 52, 270-1, 335, 337 (1943).

TO RELEASE SOYBEAN OIL

Washington, July 1.—Dr. C. W. Lenth of the Soap and Glycerine Division of FDA has just announced that 15,000,000 lbs. of crude soybean oil will be released for use by soap manufacturers during July and August. It is contemplated that no shipments smaller than tank cars will be made, but that some of this quantity will go to splitters for subsequent sale of the fatty acids to smaller soapers. Dr. Lenth asks that firms interested in obtaining allotments address their requests to his division by July 10, indicating the quantity they are interested in obtaining.

Insecticide Compound

An insecticide is composed of an unsaturated alicarbocyclic ketol having at least 10 carbon atoms, used by itself or with pyrethrum and derris. S. A. Ballard and V. E. Haury, to Shell Development Co. Canadian Patent No. 411,655.

Disinfectant Spray

Air-raid shelters in Bristol are sprayed regularly with sodium hypochlorite solution. The efficiency of the spray is tested by suspending in the atmosphere papers impregnated with acidic solutions of *ortho*-toluidine and/or starch-iodine papers. The use of calcium hypochlorite on floors was discontinued owing to the liberation of uncomfortable concentrations of chlorine in damp places. The floors are now covered with a thin layer of sawdust impregnated with a mixture of white

disinfectant fluid, creosote and anthracene oil. G. M. Davies. *J. Roy. Sanit. Inst.* 62, 54-61.

WASHINGTON OUTLOOK

(From Page 33)

IN the insecticide and disinfectant sector, it is understood that WPB has been preparing an order to restrict the number of glass containers that may be used by industries other than food and drug industries. This means that such restrictions will apply to the disinfectant and insecticide industries, though to what extent their representatives are not sure at this writing.

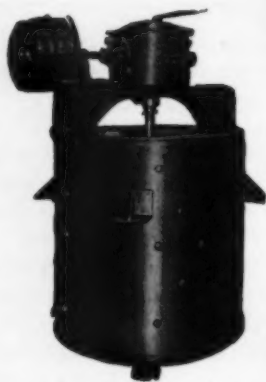
WPB is also reported considering revision of its orders M-179 and M-133, relating, respectively, to pyrethrum and rotenone. The revision, it is understood, will be concerned principally with making the form of these orders conform with WPB Directive 15, which gave the Department of Agriculture authority to direct the use of these insecticides for agricultural purposes.

Victory gardeners have been advised by the Department of Agriculture that rotenone is the most satisfactory insecticide for the control of the Mexican bean beetle. If impossible to get rotenone, says the department, "a substitute is cryolite." Spraying or dusting should start as soon as the eggs or beetles are discovered, says the department. To control the corn earworm in Victory gardens, the department recommends use of an inexpensive white mineral oil containing 0.2 per cent of pyrethrum.

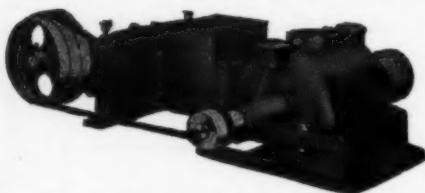
ODT has made public a list of industries to be accorded preferential treatment in obtaining gasoline in the eastern shortage area. The new list classes as "very critical," lard, shortening, margarine; sanitation; hospital, medical supplies and services; chemicals for war production.

The Interstate Commerce Commission drew up an order suspending until July 24 proposed increased freight rates on imported oils from Gulf, Atlantic and Pacific ports. The rates were proposed to be effective May 24. The Bureau of Raw Materials and others protested and got results. ★ ★

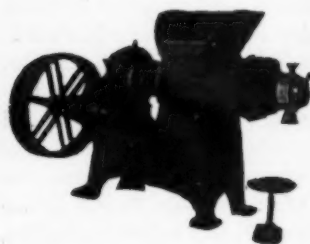
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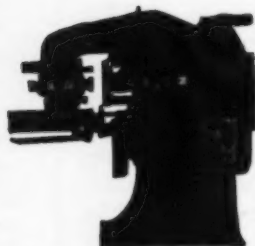
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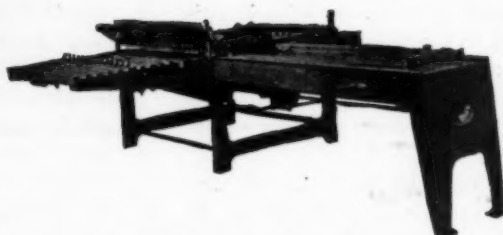
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Gedge-Gray Mixers, 25 to 6000 lbs.
capacity, with and without Sifter
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age, draft status, experience and
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For sale: Proctor & Schwartz 5 Fan, 3 Apron Conveyor, Soap Chip Dryer, complete with Feed Apron and set of Chilling Rolls. Address Box No. 546, care *Soap & Sanitary Chemicals*.

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For Sale—Porter Double Cone Blender, complete with $\frac{3}{4}$ H.P. 230 volt D.C. motor with starter and push button control. Ideal for making sweeping compound or for mixing and blending dry powders and crystals into homogeneous mixes of exact proportions. Capacity 18.6 cu. ft. Used only slightly. Address Box No. 544, care *Soap & Sanitary Chemicals*.

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Wanted — Established soap brand. We are interested in purchasing a going brand of toilet or medicated soap to add to our own line. Product should preferably be one on which some advertising has been done and for which there is an established market that can be built upon. Address full details in confidence to Box No. 547, care *Soap & Sanitary Chemicals*.

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Wanted: Complete equipment of soap manufacturing plant including boiler. Wish to purchase several crutchers, capacity 1,500 to 2,000 lbs. each, two steam jacketed kettles with paddles of 8,000 to 12,000 pound capacity. Prospective buyer located in south. Please give full details on equipment to Box No. 553, care *Soap & Sanitary Chemicals*.

For Sale: Small business; good trademark 25 years old. Will help you if you have some money to

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For Sale: Perfume — 4,000 lbs. Cannot be duplicated for less than \$2.50 a lb. Must realize cash. Our price \$1.00 a lb. subject to prior sale. Sample upon request. Address Box No. 556, care *Soap & Sanitary Chemicals*.

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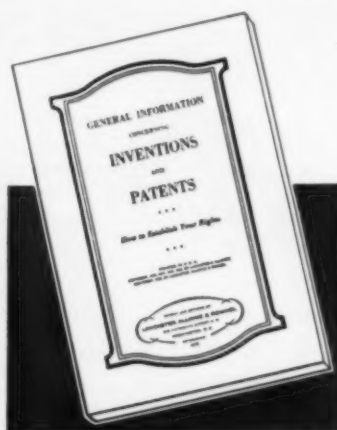
New Lines Wanted — Established Metropolitan New York jobber of cleaning supplies selling buildings, banks, etc., interested in additional lines and products. What have you to offer? Box No. 558, care *Soap & Sanitary Chemicals*.

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A surface-active quaternary ammonium compound, *para-tert-octyl* phenoxy ethoxy ethyl dimethyl benzyl ammonium chloride, has been shown to be effectively bactericidal against ten pathogenic micro-organisms, and also effectively fungicidal against seven pathogenic fungi known to be the common causative agents of athlete's foot. The compound is put out under the trade name of Phemerol by Parke, Davis & Co. The colorless, odorless compound is crystalline and may be used in aqueous or alcoholic solution. D. A. Joslyn, Katherine Yaw and A. L. Rawlins. *J. Am. Pharm. Assoc.* 32, 49-51 (1943).

Fly Spray

An insecticide suitable for the control of house flies, moths, beetles, etc., contains an extract of a pyrethrin- or rotenone-bearing plant in a non-corrosive solvent such as a petroleum distillate, together with 2-hydroxy-5-isopropyl biphenol or other suitable alkylated derivative of biphenyl. G. H. Coleman, to the Dow Chemical Co. U. S. Patent No. 2,298,681.



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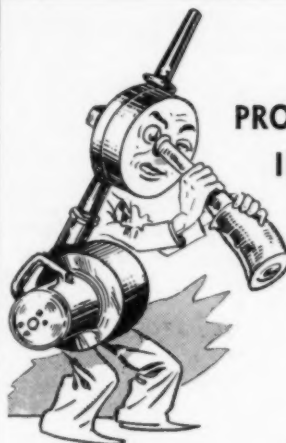
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WASHINGTON, D. C.



**NEED FOR
PROPER SANITATION
IN WAR CAMPS
INCREASES
DEMAND**

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ADAM A. BREUER'S

ELECTRIC INSECTICIDE SPRAYER

WHICH WE CAN SUPPLY on a high priority rating, if sufficient quantity is ordered and adequate time given for making deliveries under present restrictive conditions.

When ordering, be sure to supply an AA-5 rating or better; otherwise, we cannot promptly obtain essential materials for manufacturing purposes. **BE SURE TO SUPPLY HIGH PRIORITY RATING WITH ORDER—IN QUANTITY.**

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SAFETY HAND SOAP

(Powdered)

A money-maker for alert jobbers calling on industrial plants and institutions.

- ★ Hygienically safe—fast and economical
- ★ Non-abrasive, vegetable oil base
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Other items in the Skotch Products line include dish-washing compounds, medium and heavy duty cleaners, liquid soap concentrate, special formula compounds and powdered soap dispensers.

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We announce development of new type soap colors

PYLAKLORS

They have good fastness to alkali, light, tin, ageing.

The following shades are already available:

Bright Green	Dark Brown
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*It will pay you to send
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New York City

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.



"Better get ready, Cuthbert, ol' pal, 'cause it looks like dere is just as much trouble ahead as dere is behind!"

... Look Ahead!

LOOK ahead . . . and get ready! Whether the war lasts one year more or five, there will be post-war problems as large if not larger than those of war. And above all, do not lose your identity or that of your products in the scramble . . . keep advertising!

In the field of soap products, insecticides, disinfectants, chemical specialties . . . you can best be certain of maintaining your identity . . . of not losing your place . . . through regular advertising in

SOAP and Sanitary Chemicals
254 WEST 31st STREET NEW YORK

Member Audit Bureau of Circulations

Tale Ends

THE fat and oil situation will ease up over the next two months,—that is if reports and rumors have any foundation in fact. Considerably more coconut oil will be available from new imports,—and a rather large tonnage of fish oils will be released for hardening and for soap manufacture,—if and when hydrogenation facilities are available.

* * *

All-purpose soap. The U. S. Army Q. M. is reported to be having a tough time writing a specification for the product, which is quite understandable. Is there really any such animal, we wonder, as an all-purpose soap? The task, though difficult, is being handled intelligently, with the Q M Corps showing a commendable willingness to accept—even invite—informed critical opinion from practical soap makers.

* * *

Supplies of glass bottles for disinfectants, insecticides, shampoos, chemical specialties, etc. are going to be in greatly reduced supply during months to come. Demand for glassware has gone far ahead of maximum capacity of the factories, say Washington reports.

* * *

Soap sent to American war prisoners in Germany and Italy by the Army Q. M. is said to be the most welcome of all gifts and supplies owing to the reported acute scarcity of soaps in the Axis countries.

* * *

New Army louse powder now in full production, says Washington grapevine,—and an excess of the raw material may be available for civilian insecticide use.

* * *

Advertising circles look for a sharp drop in soap advertising over coming months, says *Time* in a recent issue. The implication seems to be that soap makers will neglect their obligation to explain the whys and wherefores of short supply to soap users in a sellers' market. Poor strategy, we would hazard, if the prediction is a true one.

Fragrance Of The

PINE FOREST

Brought To You Through . . .

AMERICAN DISTILLED OILS

Pure Oils Distilled Especially For Us . .

Oil of White Cedar

Oil of Cedar Leaf American Pure

Exceptionally Fine Quality

Oil of Balsam Fir American

Oil of Pine Needles American

Oil of Juniper Leaves American

(Juniperus Communis)

Requests for samples on your firm's letterhead will be promptly answered.



Aromatics Division
GENERAL DRUG COMPANY

644 Pacific St., Brooklyn, N. Y.

9 S. CLINTON STREET, CHICAGO

1019 ELLIOTT STREET, W. WINDSOR, ONT.

PARADOW

PARADICHLORBENZENE

**EASY TO MOLD
HANDY TO PACKAGE**

Paradow—paradichlorbenzene in crystal form—meets all manufacturing requirements for quality and uniformity. This highly adaptable and practical Dow product is easy to mold and handy to package. Requests for samples and quotations will receive prompt attention.

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New York City • St. Louis • Chicago • San Francisco • Los Angeles
Seattle • Houston

OTHER DOW CHEMICALS

Coumarin • Methyl Salicylate • Methyl Anthranilate • Phenols • Dovicide (Disinfectants, Fungicides) • Caustic Soda • Carbon Tetrachloride • Ethylene Dichloride • Propylene Dichloride • Orthodichlorbenzene • Methyl Bromide • Chloropicrin and many more.

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY

